MacWEEK

02.05.96 *The Newsweekly for Macintosh Managers* VOLUME 10 NUMBER 5

New Mac server line to join PCI generation

By Clifford Colby

Apple is retooling its Workgroup Server line and at this month's Seybold Seminars in Boston will take the wraps off its first PCI-based models, sources said. The boxes will reportedly be offered with a choice of three software bundles that tailor the machines to be application, AppleShare or Internet servers.

The introduction should placate network managers eager for the high performance of the PCI Mac models introduced last summer.

Based on the Power Mac 8500, the new Workgroup Server 8550

See Servers, Page 72

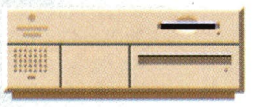
Two new Apple PCI servers built for speed

Workgroup Server 8550

- 132-MHz PowerPC 604 processor
- 512-Kbyte Level 2 cache
- 24 Mbytes of RAM, expandable to 512 Mbytes
- 2-Gbyte hard drive
- Quad-speed CD-ROM drive
- Optional DAT drive
- Three PCI expansion slots
- Internal Fast SCSI-2 bus; external SCSI bus
- 2 Mbytes of video RAM

Workgroup Server 7250

- 120-MHz PowerPC 601 processor
- 256-Kbyte Level 2 cache
- 16 Mbytes of RAM, expandable to 256 Mbytes
- 1.2-Gbyte hard drive
- Quad-speed CD-ROM drive
- Three PCI expansion slots
- Internal SCSI bus
- 1 Mbyte of video RAM



Amelio at Apple helm; Spindler pulls rip cord

By Mark Hall and Jon Swartz

The other shoe in Apple's restructuring plan has finally dropped. CEO Michael Spindler and Chairman A. C. Mike Markkula are out; board member Gilbert F. Amelio will step in.

Last week in a hastily held meeting in New York, sources said, Apple's board of directors elected Amelio chairman and CEO of the company, ending speculation about the tenuous grip of Apple's two top executives.

Amelio resigned his position as chairman, CEO and president of National Semiconductor Inc. of Santa Clara, Calif., where he is widely credited with taking the company from the brink of economic ruin to profitability.

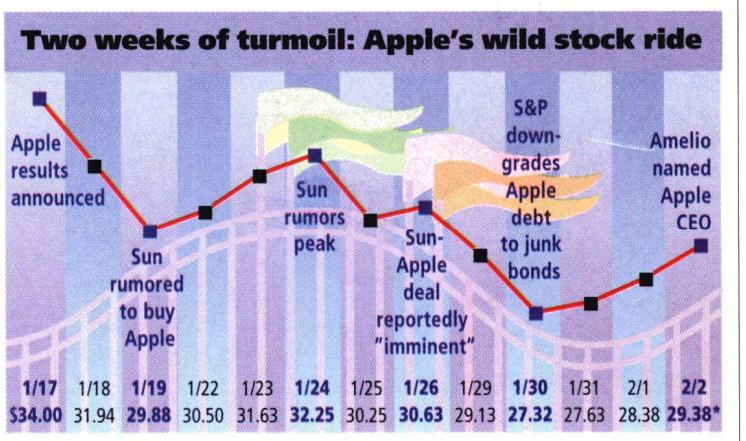
"Gil is ideally suited for Apple," said Donald Beadle, National's former vice president of worldwide marketing. "He's quite a visionary, yet he's process- and metric-driven."

"Having any kind of decisive new management is welcome news," said Daniel Kunstler, an analyst at J.P. Morgan Securities Inc. of San Francisco. "Apple is pretty close to a turnaround project."

Amelio, 52, took over at National in 1992. From 1988 to 1991, he served as president of Rockwell Communications System, a subsidiary of Rockwell International Corp. An Apple board member since 1994, he also is a director of National Semiconductor, Pacific Telesis Group, the Electronics Industry Association and the Semiconductor Association.

After 15 years, Mike "Diesel" Spindler's ride at Apple ran out of gas. Handpicked by Markkula to replace ousted CEO John Sculley in 1993, he engineered a successful transition to Power Macs and oversaw the growth of Apple from a $6 billion business to an $11 billion company.

See Apple, Page 72



**One hour before market close.*

Mac OS hitches a ride on PPCP box at Demo

By Andrew Gore

Palm Springs, Calif. — Apple came up with a show-stopper here at Demo 96 last week: the first public showing of the Mac OS running on a PowerPC Platform box.

At the industry conference, Apple described the computer hardware as a 3-week-old "proof of concept" machine built by IBM Corp., complete with a set of Intel-standard PC I/O ports. After start-up, the PowerPC Platform, or PPCP, machine displayed the Open Firmware boot ROM interface — a command line intended for programmers.

"The user won't see the text-based interface," said Mike Bell, Apple engineering manager for PPCP. "There will be a Mac-like

See PPCP, Page 72

NEWSPAPER SECOND CLASS

Oracle Power Objects slips OOP into database creation

By Christopher Hall and Carey Tews

REVIEW

With Oracle Power Objects, Oracle Corp. and Apple have brought the muscle of an object-oriented database development system to Macintosh, Windows and OS/2 platforms, boasting major ease-of-use enhancements over any previous Oracle development tool. Developed and released by Oracle and also distributed by Apple, the program is available in a $1,995 client-server version and $395 single-user version ($99 until March 31).

For the Mac database designer accustomed to outstanding products such as Claris Corp.'s FileMaker Pro and ACI US Inc.'s 4th Dimension, Oracle Power Objects, or OPO, is not a compelling purchase. Many Mac database mavens will be disappointed by the limits of its local database for single-user applications and sparse form- and report-design tools.

However, for developers needing to create or access Oracle7 databases, OPO is a long-awaited

See Power Objects, Page 31

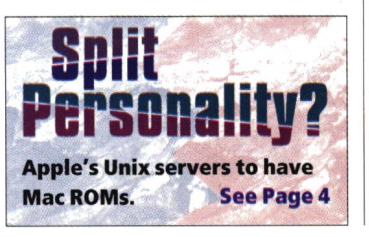
Adobe spinoff sheds new light on OPI strategy

By Kristin Balleisen

Less than a month after spinning off from Adobe Systems Inc., Luminous Corp. is set to highlight a major upgrade to ColorCentral, its OPI image and print server software.

ColorCentral 3.0, which will debut at this month's Seybold Seminars in Boston and ship by spring, features a new Open Pre-

See Luminous, Page 74



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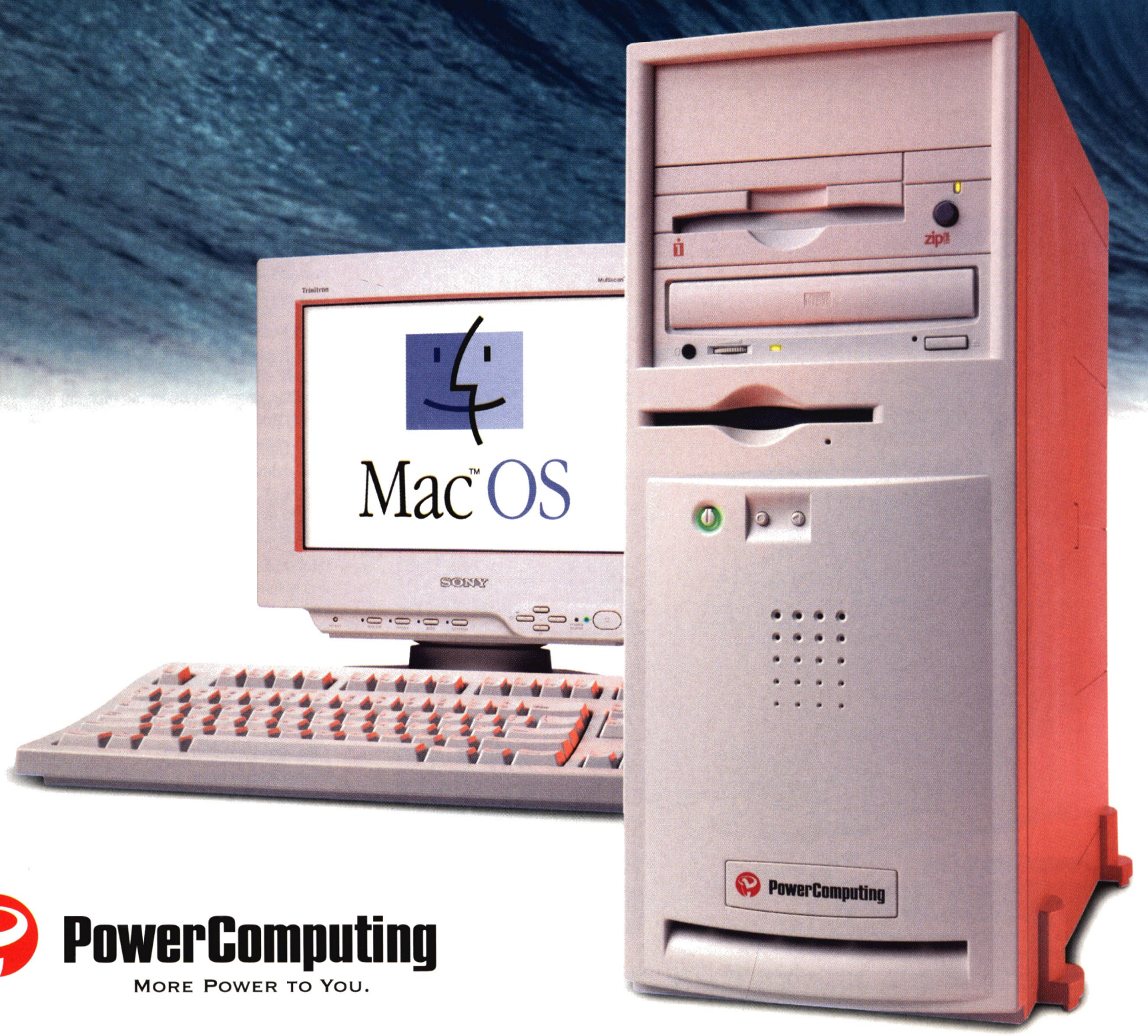

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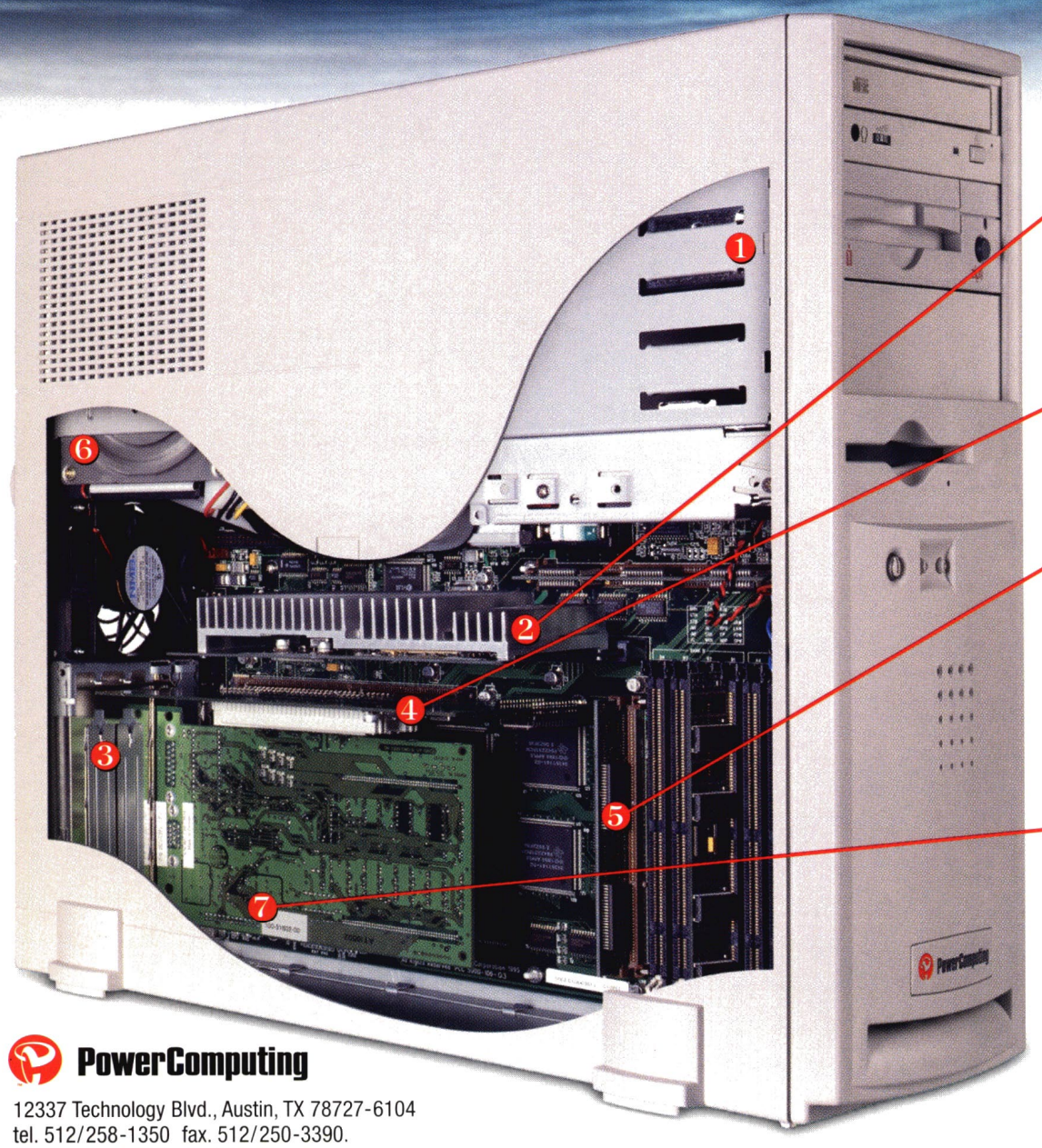

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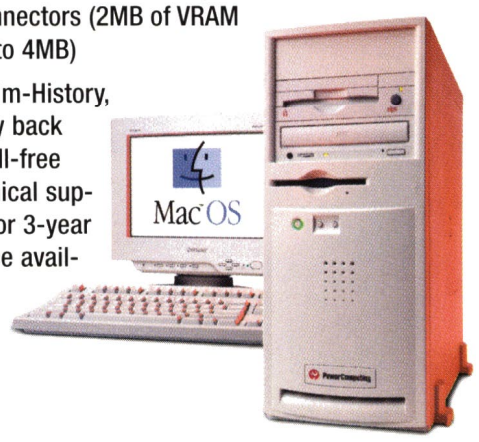

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Editor's Rave!

"Considering the purchase of a PowerMac?...We strongly recommend that you take a serious look at what Power Computing has to offer."
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Macworld- Aug 95

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PC Magazine- Aug 95

"Power Computing's systems match their PowerMac counterparts for speed and compatibility and are every bit as good as a dyed-in-the-wool Macintosh."
Infoworld- June 95

"A machine we love even more than the PowerMac 7500 - the PowerWave 604"
Macworld- Feb 96

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"The Power Computing PowerWave 604 is a very impressive Macintosh"
New York Times, November 7, 1995

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MacWEEK

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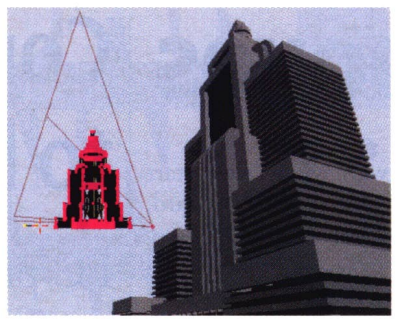
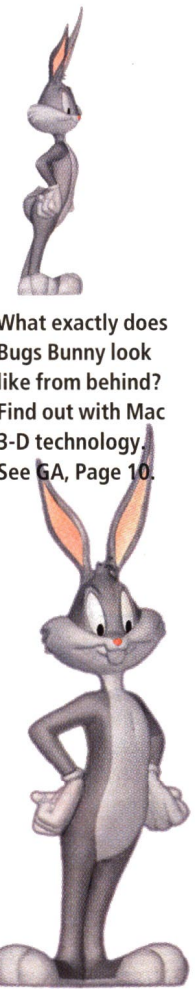


Difficult interface reduces value of Sculpt 3D. See Reviews, Page 31.

There are Web page-creation tools for all levels of ability. See Solutions, Page 37.



What exactly does Bugs Bunny look like from behind? Find out with Mac 3-D technology. See GA, Page 10.

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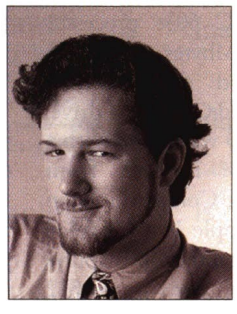
MACWEEK INSIDER STEPHEN HOWARD

Microsoft fails with OLE

Did you feel it? There was a series of temblors last month as the world of client-server development tools for the Mac shifted. And aided by the altered landscape, I've noticed a glaring hole in Microsoft Corp.'s cross-platform technologies.

Oracle Power Objects was the harbinger of the shake-up when it shipped with the seemingly heartfelt backing of Apple. Then, in January, the impossible happened: Powersoft Corp. shipped PowerBuilder for the Mac. That one woke me up in the middle of the night and broke some dishes in the dining room.

In certain circles, the shipment of a Macintosh version of PowerBuilder — the top client-server tool among big businesses — is like the birth of a white buffalo calf. You could see an eerie glint in the pilgrims' eyes as they approached the company's Macworld Expo booth to witness the prophesied event.



Just last week the seismograph registered another bump when Jyacc Inc. shipped its fully cross-platform update, JAM 7.01. Several more fourth-generation development tools are coming down the pike. The views of users who have been toiling with these tools, and the tribulations of cross-platform development in general, are explored in this week's Gateways Extra on Page 18. Also this week, we reviewed Oracle Power Objects 1.0 (OPO) and found it to be a boon to Oracle7 users but lacking as a general-purpose tool.

To me, the most curious revelation during our evaluation was the absence of OLE in the Mac version. OPO and the other members in this new class of client-server tools point out how badly Microsoft has blown it when it comes to OLE for the Mac. The problem is just the sort of cross-platform bungling for which developers, users and the press so often criticize Apple.

Despite Oracle Corp.'s plug for OpenDoc in the next version of OPO, the company likes OLE just fine. Like many fourth-generation development tools, OPO for Windows heartily supports OLE while the Macintosh version does not. Ditto for PowerBuilder. Why not?

Microsoft implemented OLE on the Mac differently than OLE under Windows. The APIs for an Intel-standard PC are different from the ones on the Mac, so third-party developers — such as Jyacc — can't have common code bases for their cross-platform products. The features of Mac OLE are fewer and different, too, which makes using OLE on the Mac slower, more awkward and less compelling than under Windows.

Mac client-server tools don't use OpenDoc, and they don't use OLE.

Worse, those little applets called OCXes or OLE controls — the real, live, shipping-today-in-large-numbers component software used for database front-ending and custom development projects — don't work on the Mac because Microsoft hasn't supported them.

Despite the renaissance in client-server development tools for the Mac, these environments aren't yet implementing OpenDoc and they don't use OLE. The tools aren't fully cross-platform, and Mac developers miss out on the libraries of add-ons that Windows database managers enjoy.

If Microsoft had done a decent job of implementing OLE on the Mac from Day One, our applications would be more interoperable, development tools could incorporate OCXes in cross-platform projects, and there would have been no need for OpenDoc. Microsoft is correct in saying that OLE under Windows today delivers much of the promise of OpenDoc. It's only because Microsoft botched the job on the Mac that there was a need, and an opening, for Apple to define its own component standard and rally the anti-Microsoft forces.

Perhaps cross-platform shops will be better off in the long run with OpenDoc instead of OLE. But until we get one or the other on both sides of the fence, client-server tools have been compromised, and we all lose. □

Stephen Howard is executive editor, reviews and features. He welcomes feedback at stephen_howard@zd.com.

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Apple preps Unix boxes

Shiner servers to have Mac ROMs

By Matthew Rothenberg

This month's Seybold Seminars 96 in Boston will reportedly be the launch site for Apple's new line of Unix servers, code-named Shiner.

Contrary to previous reports, sources said, the devices include Mac ROMs, suggesting the workstations could run a version of the Mac OS in addition to AIX, IBM Corp.'s flavor of Unix.

Sources said Apple will introduce two models in the line: the Network Server 500/132 and the Network Server 700/150, based on 132- and 150-MHz 604 processors, respectively. Each will come with 32 Mbytes of RAM.

The new servers will initially run AIX as their sole OS. However, sources said, the machines' Mac firmware will let users start up from a normal Mac keyboard; after generating the distinctive Mac start-up sound, the devices could offer users the option of selecting the Mac OS.

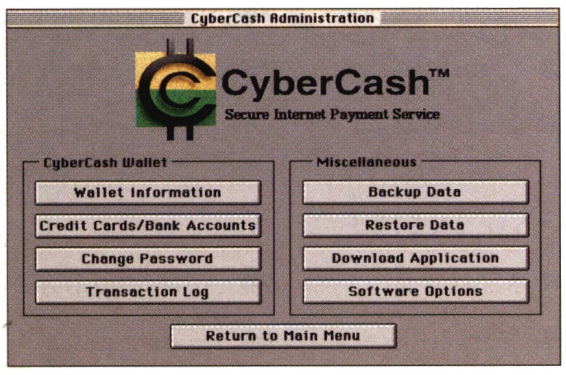
According to sources, Apple is considering shipping the Network Servers with a special version of the Mac OS. "It's a cool hack," said a source who is familiar with Apple's efforts. "Because [Novell] NetWare is not going to be available on Shiner, it won't be as attractive to customers"; a Mac option may enhance its appeal, he said.

The Shiner boxes are Apple's first workstations built as servers from the ground up. Sources said the machines will be aimed at publishing workgroups and education sites (see 11.13.95, Page 1). Apple will show off the devices with new AIX software:

- **Information Presentation Technologies Inc.** of San Luis Obispo, Calif., will debut an AIX version of uShare, its AppleShare server software.
- **Canto Inc.** of San Francisco will show a Unix version of Cumulus, its image-cataloging software.
- **HexMac International Distribution Deutschland** of Germany will roll out an AIX version of HexBase, its database-publishing system.
- **Helios Software GmbH** of Germany will show EtherShare network server software for AIX.
- **Legato Systems Inc.** of Palo Alto, Calif., will deliver an AIX server version of NetWorker, its network backup software.

Also, American Power Conversion Corp. of West Kingston, R.I., will offer its uninterruptible power supply for the new machines.

Apple declined to comment. □



CyberCash Wallet's administration window lets users edit credit card information, change their passwords and review past purchases.

CyberCash pays over Web

By James Staten

Mac users can breathe easier about using a credit card to purchase products over the Internet. CyberCash Inc. last week released a free electronic-commerce utility for the Mac.

CyberCash Mac Wallet conducts credit card transactions over the Internet via an encrypted connection. The utility provides a walletlike interface, where users can store Visa, MasterCard, Discover or American Express card information. All data is protected by a password. When visiting a Web site running the CyberCash server, the user hits the "Pay" button, and the CyberCash Mac Wallet automatically launches the payment process, the company said.

The tool can be used only with merchants running the CyberCash server; support for electronic cash transactions will be provided in the second half of 1996.

PowerPC and 680x0 versions are at http://ftp.cybercash.com/cgi-bin/download.

CyberCash Inc. of Redwood Shores, Calif., is at (415) 594-0800 or (800) 929-2371; fax (415) 594-0899; info@cybercash.com; http://www.cybercash.com. □

DayStar to ship 2 high-end Genesis models

By David Morgenstern

DayStar Digital Inc. this week will release a pair of high-performance Genesis MP 600 models, new additions to its line of multiple-processor Mac clones.

Aimed at the graphics-workstation market, DayStar's new 600 models are based on the six-slot PCI design used with the original Genesis MP. The systems come with a CPU daughtercard that holds four 150-MHz PowerPC 604 processors.

The top-of-the-line Genesis MP 600 64/5000 ships with 64 Mbytes of RAM for $24,999. The system will include a 24-bit-color PCI display card, a 1-Gbyte Fast SCSI-2 hard drive, and a dual-channel Fast and Wide SCSI-2 PCI board connected to an internal 4-Gbyte Fast and Wide array.

The $19,999 Genesis MP 600 32/2000 comes with 32 Mbytes of RAM and a 2-Gbyte hard drive.

In other news, DayStar said it has improved support for Strata Inc.'s StudioPro Blitz 1.75+ 3-D software (see 12.11.95, Page 1). DayStar said a free updater offers about 2.5 times the performance of the software running on a single-processor Mac.

DayStar Digital Inc. of Flowery Branch, Ga., can be reached at (770) 967-2077 or (800) 972-8711; fax (770) 967-3018; http://www.daystar.com. □

Corel swings deal to buy WordPerfect

PC productivity suite due in April

By Jon Swartz

Corel Inc. last week lassoed WordPerfect, Novell Inc.'s sputtering business applications division, for $115 million in cash and stock. But Corel's plans for the Mac market are far from firm.

Corel CEO Michael Cowpland said the Ottawa-based company intends to meld its popular graphics software with WordPerfect applications and challenge Microsoft Corp.'s dominance of the productivity-suite market. Corel's new suite, due in April, will feature software for sharing documents and information on the Internet.

At the same time, Cowpland dismissed reports that WordPerfect will abandon Mac development. He said Corel may also bring out suite software for the Mac, but he did not say when. Cowpland also declined to comment on the future of WordPerfect for the Mac as a standalone product.

Corel said it does not plan to immediately move WordPerfect's 700 programmers and marketing personnel from Orem, Utah, Cowpland said. The fate of another 500 employees, whose jobs overlap with Novell's other businesses, will be decided later, according to Corel.

In addition, Corel will license Novell's GroupWise and Envoy software and other technologies for at least $70 million over the next five years.

Orem-based Novell paid $1 billion for WordPerfect and Borland International Inc.'s Quattro Pro spreadsheet less than two years ago. But Novell said in October it would sell WordPerfect and concentrate instead on networking products.

The deal was well-received on Wall Street. Novell stock rose to $13.25 per share, while Corel stock improved to $11.82 in trading ending Feb. 1. □

Apple lowers Performa prices, adds new config

By Joanna Pearlstein

Apple has cut Performa prices and will introduce a new Performa configuration next week.

Prices of the Performa 5215, 6116, 6200 and 6300 have dropped by an average of 8 percent, or $175 (see chart, right).

The new Performa 6290CD will be based on the Performa 6300 and will cost $2,199. It will use a 100-MHz PowerPC 603e processor and include 8 Mbytes of RAM, a 1.2-Gbyte hard drive and a quadruple-speed CD-ROM drive.

The 6290CD will come with a 28.8-Kbps fax modem from Global Village Communication Inc. and an Apple 14-inch color monitor. The monitor displays images at resolutions up to 832 by 624 pixels and has a dot pitch of 0.28mm.

The Performa will be bundled with a variety of educational, business and entertainment software packages, as well as several CD-ROM titles.

Performa price cuts

CPU	OLD PRICE	NEW PRICE
Performa 5215	$1,999	$1,899
Performa 6116	$1,699	$1,499
Performa 6200	$1,999	$1,899
Performa 6300	$2,799	$2,499

In related news, Apple is also offering a $150 mail-in rebate for customers who purchase an Apple printer and a Performa or PowerBook. The qualifying printers include various StyleWriter and LaserWriter models. Users who purchase a Power Mac 7200 and a 17- or 20-inch Apple display or designated printer will also receive a rebate. The promotions run through March 17. □

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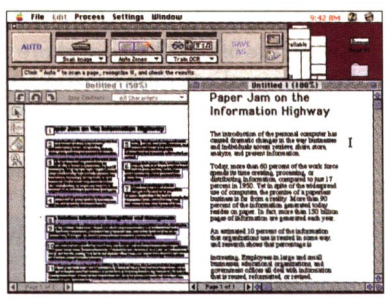

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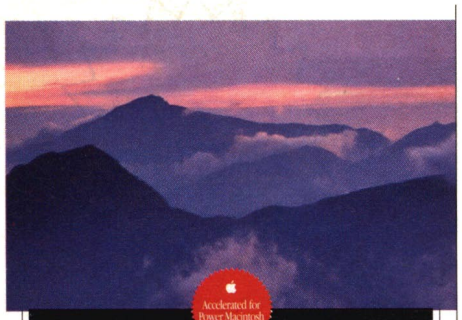

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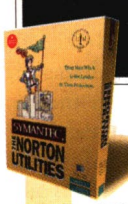

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MYOB update adds custom reports

Entry-level software improves ease of use

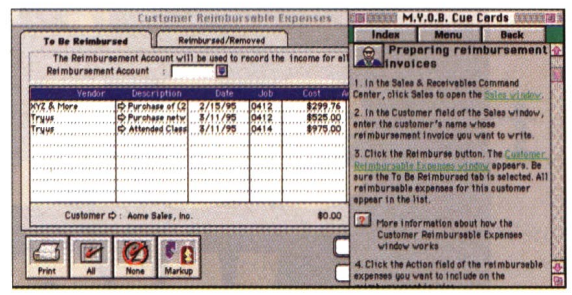
By Jon Swartz

Offering number-crunching assistance to small businesses, BestWare Inc. recently updated its MYOB Accounting software.

Version 6.0 of the $90 MYOB Accounting and $140 MYOB Accounting with Payroll features new customizable reports, expanded job-management capabilities and Power Mac-native code.

The update offers Cue Cards, a new online help system. The intelligent-agent technology guides users through more than 100 common business-management tasks, such as handling bounced checks, commissions and end-of-the-year transactions.

The software can also link reimbursable expenses to customers and have the customers invoiced automatically, BestWare said. The program now imports data from Intuit Inc.'s Quicken as well as other database and accounting applications, BestWare said.



MYOB Accounting 6.0 features a new Cue Cards help system that leads users through common tasks.

Version 6.0 lets users tailor reports from more than 100 templates. They can select which fields appear on particular reports and add colored text to highlight profits and losses. Its enhanced headers can include project start and completion dates as well as manager and client information.

The Payroll update lets managers create new categories for leave, tie accrual leave time to payroll categories and set which leave categories can accrue into a new fiscal year.

Users of previous versions of MYOB Accounting will receive a $20 rebate toward the retail purchase of Version 6.0; users of MYOB Accounting with Payroll will get a $40 rebate. BestWare also offers a $15 rebate to users of Intuit Inc.'s Quicken.

BestWare Inc. of Rockaway, N.J., can be reached at (201) 586-2200 or (800) 322-6962; fax (201) 586-8885; njcustserv@bestprograms.com; http://www.abra.com. □

New Sonar versions surface

By David Morgenstern

Making it easier for readers to leaf through data, Virginia Systems Software Services Inc. last week updated its Sonar Bookends indexing software.

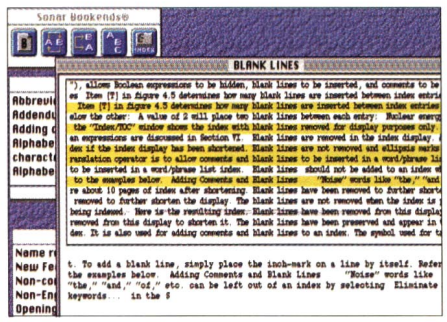
Version 4.0 of the $195 software lets users automatically convert a single-level list of authors or words into an index with multiple levels. The company said the update has beefier indexing routines for proper nouns and a preview mode that can display indexed phrases in context.

The update can save an index as tab-delimited text for import into database applications and provides users with frequency data for indexed items. It also sports a streamlined interface and Apple Guide-based help.

Users of previous versions can update for $75.

In other news, Virginia Systems recently released updates to its Sonar text-retrieval and document-imaging programs.

Version 9.0 of the $295 Sonar and $795 Sonar Professional text-retrieval software features support for drag-and-drop text, Apple-events scripting and Microsoft Word 6.0 files. Both updates can copy documents retrieved from a search to a separate folder.



Sonar Bookends 4.0 can offer indexers a list view for a selected phrase in a document.

The Professional version offers improved searching capabilities that let users narrow parameters quickly and create complex searches, the company said. Users can also create hypertext links to images and QuickTime movies; Sonar 9.0 can view and use the links.

Users of previous versions of Sonar and Sonar Professional can upgrade for $50 and $125, respectively.

Virginia Systems raised its Sonar Image line of document-retrieval packages to Version 3.0.

In addition to the new features introduced in its text-retrieval products, the updates improve the display of dithered images, can scan pages in the background and support a variety of OCR engines, the company said.

The new version can import and export TIFF images as well as rotate images.

Users of the $1,295 Sonar Image, $795 Sonar Image Personal Edition and $395 Sonar Image Discovery Edition can upgrade for $250, $200 and $125, respectively.

Virginia Systems Software Services Inc. of Midlothian, Va., can be reached at (804) 739-3200; fax (804) 739-8376; vasys@cris.com; http://www.cris.com/~vasys. □

Visioneer whittles PaperPort price

Visioneer Inc. last week cut the price of its popular desktop document-scanning system.

The company announced that it had reduced the cost of the PaperPort Vx by $70; the compact OCR scanning package now fetches an estimated street price of $299.

The PaperPort Vx is based on a 400-dpi engine and captures text pages in eight-bit gray scale. It comes bundled with OmniPage Lite OCR software and Corex Technologies Corp.'s CardScan SE business-card scanning software (see 10.09.95, Page 4).

Visioneer Inc. of Palo Alto, Calif., is at (415) 812-6400 or (800) 787-7007; fax (415) 855-9750; http://www.visioneer.com. □

Windows util set for Mac CD-ROMs

By David Morgenstern

Ballard Synergy, a player in the arena of Windows storage utilities, this month will enter the Mac field with new CD-ROM accelerator software.

The company said its $49.95 d-Time will boost access times and data transfer rates. While the software will not come with a proprietary CD-ROM driver, it is compatible with Apple's software and most third-party drivers, Ballard said.

Unlike the RAM caches used in many CD-ROM accelerators, d-Time will create a large file of 10 Mbytes or more on users' hard drives. Depending on the application, Ballard said, its add-on will provide up to seven times the data transfer performance and 25 times average access rates for a double-speed player; the speed of 4x drives will increase by three for data transfer and by 20 for access.

According to the company, the driver will track discs as they are used and determine which files should be placed in the hard drive's cache file. If data is removed from the cache over time, the software will automatically load the files when a title is mounted; this process can take from 30 seconds to two minutes, depending on the speed of the CD-ROM drive.

Ballard Synergy of Silverdale, Wash., can be reached at (206) 656-8070 or (800) 754-1204; fax (206) 656-8205; http://www.ballardsynergy.com. □

Okidata preps PS printers

By David Morgenstern

Okidata this month will release a pair of new printers aimed at workgroups.

The $1,839 OL1200/PS and $1,439 OL810e/PS are based on the company's LED engines. Both legal-size printers come with Adobe PostScript Level 2, PCL 5E emulation and support for the company's edge-smoothing algorithms. They use memory-enhancement technologies to improve performance with image-laden pages.

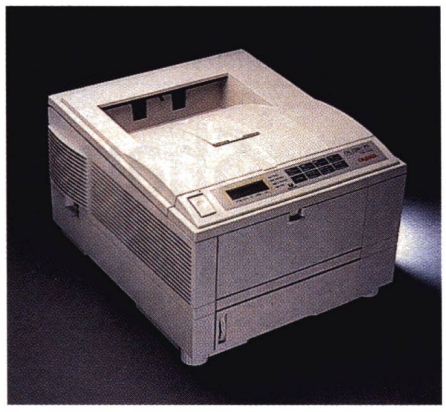
The OL1200/PS offers 600-dpi output and a print speed of 12 pages per minute, Okidata said.

The printer uses a 32-MHz MIPS RISC processor and comes with 6 Mbytes of RAM, which can be expanded to 34 Mbytes. It comes standard with 35 Type 1, 35 PCL, line printer and U.S. Postal Service fonts.

In addition to standard 500-sheet and 100-sheet input trays, the printer can handle a $299 500-sheet tray and a $169 paper- and envelope-feeder. The unit comes with a 250-sheet output tray and a 100-sheet straight-path rear-exit tray for heavy papers and envelopes.

The OL1200/PS includes automatic sensing and switching bidirectional parallel, serial and LocalTalk interfaces and supports a $459 multiprotocol Ethernet or $659 token-ring card.

The OL810e/PS is an 8-ppm printer that offers 600-by-1,200-dpi resolution, Okidata said. It comes with a 25-MHz MIPS processor and 3 Mbytes of RAM, which can be expanded to 19 Mbytes.



Okidata's OL1200/PS has a 100-sheet rear-exit tray with a straight path that handles heavy-stock pages and envelopes.

With a font package similar to that of the higher-speed model, the OL810e/PS also comes with parallel, serial and LocalTalk interfaces. It has a 250-sheet paper tray and 150-sheet output holder. Users can add a $289 250-sheet input tray and a $149 envelope feeder.

In other news, Okidata recently shipped its entry-level PostScript printer, the $949 OL610e/PS.

The small 600-dpi LED printer has a print speed of 6 ppm. It comes standard with 2.5 Mbytes of RAM, 37 Type 1 and two multiple-master fonts, and parallel and LocalTalk interfaces.

Okidata, a division of Oki America Inc., of Mount Laurel, N.J., can be reached at (609) 235-2600 or (800) 654-3282; fax-back (800) 654-6651; http://www.okidata.com. □

MIDI Land speakers meld sound with 3-D

By James Staten

MIDI Land Inc. hopes to sweeten the experience of on-screen virtual reality with a taste of auditory candy. The company released three systems; two output simulated 3-D sound via a built-in digital signal processor.

- **The MLi-370,** priced at $295.95, comprises a pair of shielded desktop satellites and a subwoofer. The system provides 27.5 watts per channel and has a frequency range of 35 Hz to 20 kHz.

The subwoofer features Turbo Bass circuitry, which improves sound at low frequencies, MIDI said. Dome tweeters on the satellites improve high-frequency output.

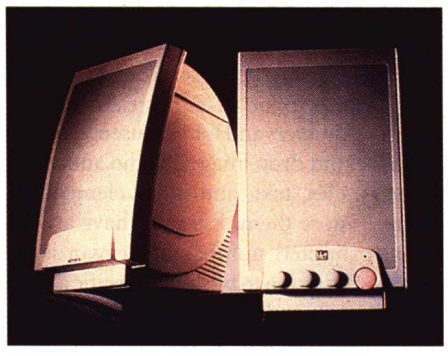
The speakers use separate tweeter and midrange drivers to minimize interference. Stage regulators in the left and right pre-amp channels and subwoofer minimize cross-channel interference, the company said.

The MLi-370 features separate bass, treble, crossover, and satellite and subwoofer volume controls, plus dual-input jacks, and microphone and headphone jacks.

- **The MLi-S35** is a $239.95 subwoofer with a frequency range of 35 to 350 Hz. It outputs 35 watts and features the 3-D and Turbo Bass circuitry found in the MLi-370. The unit comes with a controller box for connecting a pair of satellite speakers.
- **The MLi-95,** priced at $119.95, is a pair of desktop speakers offering separate woofers and tweeters.

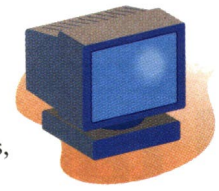
The magnetically shielded units output 15 watts per channel and provide a frequency range of 20 Hz to 20 kHz. Separate bass and treble controls are provided, along with a headphone jack and built-in power supply equipped with surge protection.

MIDI Land Inc. of San Dimas, Calif., can be reached at (909) 592-1168; fax (909) 592-6159; mlisales@aol.com. □



Upward mobility: MIDI Land's MLi-95 speakers are angled upward at 15 degrees to deliver sound more directly to the user.

Monitor Beat



Flat and sassy. Panasonic Communications and Systems Co. of Secaucus, N.J., unveiled PanaFlat 17, a new flat-screen display with an estimated street price of $999.

Slated to ship in May, the monitor will have a dot pitch of 0.24mm and display images at resolutions up to 1,152 by 870 pixels at a 75-Hz refresh rate. Phone (201) 348-7000 or (800) 742-8086; fax (201) 392-4760.

MAG unpacks Technitron. MAG InnoVision Co. Inc. of Santa Ana, Calif., recently released its Technitron series of color monitors.

Based on Trinitron tubes, the 15-inch DX15T and 17-inch DX17T cost $499 and $899, respectively. The 15-inch model comes with an on-screen display manager. Both monitors have a stripe pitch of 0.25mm and display images at a resolution of 1,152 by 870 pixels at 75 Hz. Phone (714) 751-2008 or (800) 827-3998; fax (714) 751-5522.

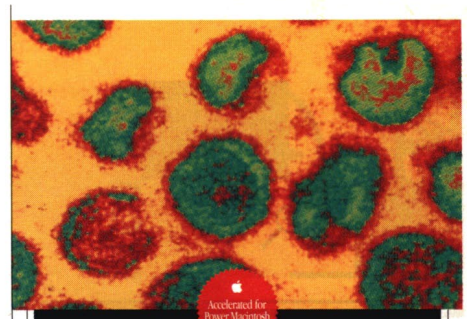
ViewSonic's hefty display. ViewSonic Corp.'s recent offering is a $3,995 29-inch display aimed at presentations and demonstrations.

ViewSonic 29A from the Walnut, Calif.-based company sports a 27-inch image area and provides resolutions up to 1,024 by 768 at a refresh rate of 80 Hz. Phone (909) 869-7976 or (800) 888-8583; fax (909) 869-7958.

New crop of monitors. Techmedia Computer Systems Corp. of Garden Grove, Calif., recently showed new 17-inch and 20-inch color monitors.

The 17-inch $699 TCM-1750 displays images at resolutions up to 1,152 by 870 at a 72-Hz refresh rate. The larger TCM-2050, which lists for $1,499, supports resolutions of 1,280 by 1,024 at 72 Hz. Phone (714) 379-6677; fax (714) 379-9069.

— By Joanna Pearlstein



HOW IRONIC.

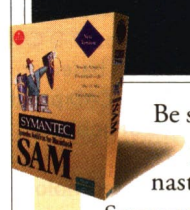
YOUR MAC GETS

A VIRUS

AND YOU'RE

THE ONE WHO GETS

VIOLENTLY ILL.



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ADOBE HEADS HOME

Adobe Systems Inc. last week shipped PhotoDeluxe, its $89 photo-enhancement software for the consumer market.

ScanAce III targets pros

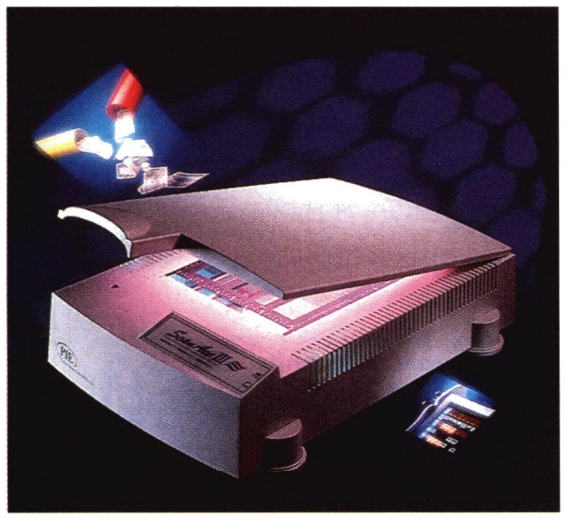
Low-cost scanner captures 36 bits

By Kristin Balleisen

Focusing new efforts on the graphics market, Pacific Image Electronics Inc. recently announced a low-cost color flatbed scanner aimed at imaging professionals.

Due to ship by the end of the month, the $1,095 ScanAce III resembles the $749 ScanAce II, the company's midrange color flatbed for business users (see 10.23.95, Page 6).

Like its predecessor, the ScanAce III will feature an optical resolution of 600 by 1,200 dpi; bundled scanning software will offer interpolated resolutions of up to 4,800 by 4,800 dpi, according to Pacific Image.



Pacific Image is hoping to capture cost-conscious graphics professionals with its 36-bit ScanAce III flatbed.

The new scanner will be able to capture 36 bits each of RGB information or 12 bits of gray-scale data in a single pass. It will feature a linear CCD (charge-coupled device) array and a cold-cathode fluorescent light source, the company said.

The ScanAce III will accommodate originals measuring up to 8.5 by 14 inches; it will be able to scan a 600-dpi, letter-size color image in 60 seconds, Pacific Image said.

The SCSI-2 device will ship

See Scanner, Page 10

Sharp delivers new LCD projection gear

By Matthew Rothenberg

Sharp Electronics Corp. in January honed its LCD projection line with a new panel and a multimedia projector.

Sharp's QA-1800, priced at $6,295, features a 10.4-inch active-matrix LCD that projects 24-bit color at resolutions up to 800 by 600 pixels.

An optional backlight attachment, priced at $400, allows the panel to be used as a monitor.

The QA-1800 weighs less than 7 pounds; includes a universal power supply; and comes with a wireless remote for controlling the panel, video source and computer.

The XG-E1000U, priced at $9,995, outputs up to 600 lumens, projecting images up to 300 inches measured diagonally.

The 35-pound device uses three active-matrix LCD panels to display full-color video at a horizontal resolution of 500 lines and computer images at a top resolution of 800 by 600 pixels.

The XG-E1000U comes with a built-in amplifier and mono speaker and includes inputs for RGB, composite and S-video, and stereo audio. It offers variable masking to project video at aspect ratios of 4-to-3, 16-to-9 and 21-to-9.

It also features a motorized lens-shift feature to minimize image distortion when repositioning the projector between ceiling-mounted and tabletop positions.

The projector ships with a backlit wireless remote and supports front- or rear-projection modes.

Sharp Electronics Corp. of Mahwah, N.J., can be reached at (201) 529-8781; fax (201) 529-9636; http://www.sharp-usa.com. □

Ashlar app lowers CAD costs

By Kelly Ryer

Ashlar Inc. is slated to bring Mac-based drafting to the masses next week when it ships DrawingBoard, a low-cost 2-D CAD program.

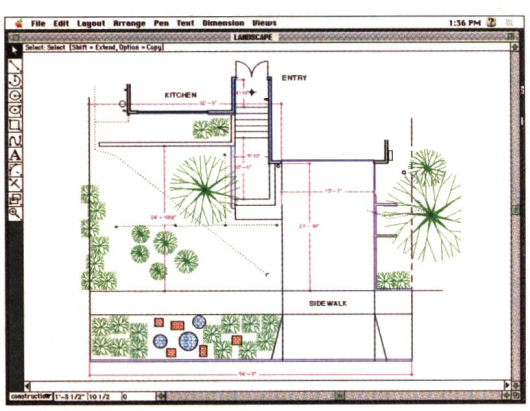
Priced at $249.95, DrawingBoard is based on the same technology as Vellum, Ashlar's full-featured $1,495 CAD program. According to the company, DrawingBoard is aimed at hobbyists, home computer users, landscapers and office managers.

The software's Drafting Assistant technology analyzes users' mouse movements; it displays line endpoints, tangent points for lines and circles, and other geometric properties. DrawingBoard users can also use variables to define the dimensions of objects, enabling them to create parametric shapes and symbols.

The software ships with a library of predrawn symbols, including furniture and appliances for home users, trees and fences for landscapers, parametric doors and windows for architects, and parametric nuts and screws for mechanical designers. Ashlar said it plans additional libraries for the software.

DrawingBoard can import both 2-D and 3-D DXF (Drawing Interchange File) documents; it can export 2-D DXF documents.

Ashlar Inc. of Sunnyvale, Calif., can be reached at (408) 746-1810 or (800) 206-4075; fax (408) 749-1531; http://www.drawingboard.com.



Drawing on the low end: Ashlar's DrawingBoard offers Mac users CAD capabilities for less than $250.

Video Toolkit edits analog, digital clips

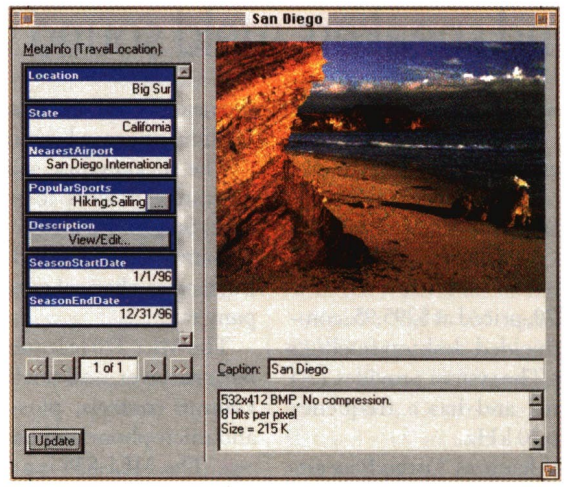
By Carolyn Said

Packing three video functions into one low-cost package, Videonics Inc. is now shipping the Video Toolkit. The software lets users log video clips, edit analog video and automate digital movie making.

Video Toolkit's video log lets users electronically file scene locations and related notes for VCR tapes. Controlling a camcorder or VCR via an included cable, the software lets users click to identify start and end points and then add scene names and comments. Users can later search for specific clips by entering keywords.

The software's analog editing, which also works via cable control of a camcorder or VCR, lets users create an on-screen edit-decision list; the software then

See Video, Page 10



MediaAssets, a multimedia cataloging application, lets users enter an unlimited number of keywords for their images as well as business-specific attributes and description fields.

Cataloger tracks multimedia

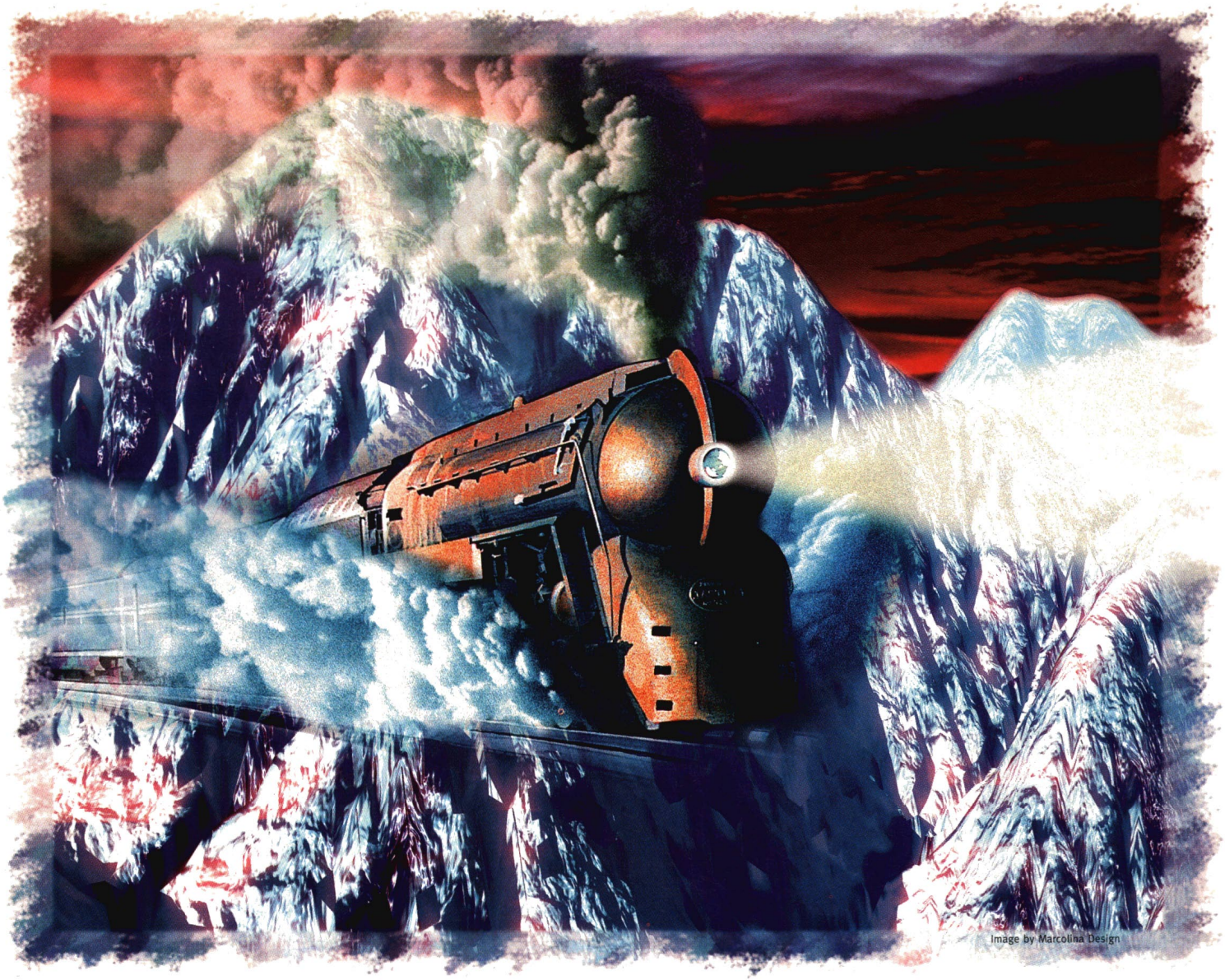
By Carolyn Said

Putting a fresh face on its system for storage and management of multimedia files, MediaWay Inc. this week will roll out MediaAssets, a cataloging application that acts as a front end to the company's MediaDB client-server database.

Available now for Intel-standard PCs and due for the Mac in March, MediaAssets uses the metaphor of a file cabinet with drawers and folders; users can drag and drop images, audio and video files, text, and other elements to store them. Files can have an unlimited number of keywords, in addition to business-specific attributes and description fields.

An interactive browser with thumbnail views gives visual access to stored files. Built-in security

See MediaAssets, Page 10



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Genesis MP runs Photoshop seven times faster than a PowerMac 8100. It's four times faster than Apple's new PowerMac 9500. Even an SGI workstation costing three times as much runs at a fraction of the speed. **Nobody does it faster than Genesis MP.**

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Hot Product 1995 Electronic Publishing

Computer Artist Top Product 1995

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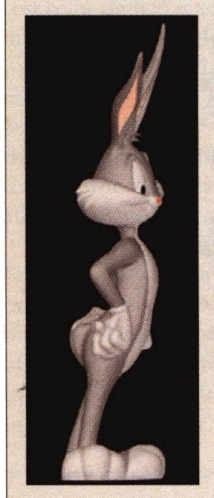
SCREEN TEST

3-D breathes life into Bugs Bunny

Everyone recognizes Bugs Bunny when they see him, but most would be hard-pressed to draw the popular cartoon character from behind. And what color are those ears, exactly?

These are the problems faced by Warner Bros.' Consumer Products division in Burbank, Calif., which designs official likenesses of the company's licensed characters for T-shirts, brochures, figurines, toys and other products. Using Mac 3-D technology, the division was able to transform the convoluted design-approval process and make visualization easier by creating a 3-D style guide of characters, starting with the famous rabbit.

To bring Bugs into the third dimension, a clay model of the character was scanned using a 3030 R/HiRez CyberWare 3-D digitizer system from Cyber F/X of Glendale, Calif., which generated a file in DXF (Drawing Interchange File) format.



The huge high-resolution DXF model weighed in at about 320,000 polygons, too large to import into most Mac 3-D applications.

"People said it was impossible to do on a Mac," said Eric Dehkhoda, technical director for the project. "Cyber F/X usually just works with Silicon Graphics machines."

Dehkhoda approached Jim Boyd, corporate technology liaison at Strata Inc. of St. George, Utah, who cooked up a special version of StudioPro Blitz that was capable of handling the oversized models. (This version, dubbed StudioPro Blitz Plus, will be available free to users of StudioPro 1.75.)

Once the model was brought into Studio Pro, Dehkhoda defined groups of polygons as separate regions for arms, legs, torso and ears. Working with Frank Espinosa, Warner Bros.' director of characterization, Dehkhoda manipulated, colored and posed the model within Studio Pro. Espinosa, whom Dehkhoda calls "the Bugs Bunny God," verified that the 3-D model was consistent with the animated character.

The division's 3-D style guide uses color printouts and QuickTime movies of the 3-D model and will soon include a QuickTime VR movie of Bugs in different poses. "Let's say a company wants to make Bugs Bunny-shaped shampoo bottles," said Dehkhoda. "They can manipulate the QuickTime VR movie themselves and see the approved poses, choose a camera angle and have our designers create a 3-D model [of the bottle] for them."

Warner Bros. said it plans to bring all its licensed characters into 3-D using the same process, and Dehkhoda said he believes other studios will soon follow. "It's the shape of things to come," he said.

— By Kelly Ryer

MediaAssets *From Page 8*

features include password protection and selective access for certain users. Other features include check-in/check-out and version controls. The software also offers built-in e-mail and annotations.

The underlying object-oriented database first shipped last year along with MediaDB Application Development Kit, which lets users create front ends to it (see 02.27.95, Page 8). While the Application Development Kit is still included, MediaWay said it created MediaAssets because it found that most of its customers had similar requirements for managing their multimedia files.

In conjunction with the kit, an open API lets users customize MediaAssets. An extensions mechanism offers control over default behaviors in security, version control, project management, querying, navigation, archiving and backup.

Dwain Robb, business support group manager at Land's End Inc. in Dodgeville, Wis., said he plans to use MediaDB along with a customized front end that resembles MediaAssets to manage images, text and layouts for his company's catalogs. "We probably handle a minimum of 10 [Gbytes] a year just in low-res images and text," Robb said. "Rather than doing the development [of a cataloging system] ourselves, we went with MediaWay's object-oriented technology."

MediaAssets and MediaDB start at $10,000 for a five-user client-server package; they range up to $56,000 for 50 users.

MediaWay Inc. of Santa Clara, Calif., is at (408) 748-7400 or (800) 632-7401; fax (408) 748-7402; http://www.mediaway.com. □

Scanner *From Page 8*

with the company's CyberView scan-enhancement software, which users will be able to access via an Adobe Photoshop plug-in or as a stand-alone application. The company also said it will probably bundle the scanner with an OCR package and an image-editing application, although no details were available.

The company said a transparency adapter for the scanner will be available for $496; a 20-page document feeder will sell for $350.

Pacific Image Electronics Inc. of Torrance, Calif., can be reached at (310) 214-5281 or (800) 909-9996; fax (310) 214-5282; pieus@earthlink.net. □

Video *From Page 8*

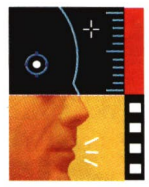
finds and records selected scenes onto a new tape automatically.

Finally, Video Toolkit lets users equipped with a video-digitizing card assemble an edit list for QuickTime movies. The program keeps the audio track synchronized with the video; embedded timecode or tape-counter information lets users do additional editing with software such as Adobe Premiere, Videonics said.

Video Toolkit is $99; that introductory price will last until summer, when the price of the software will rise to about $200, the company said. A Windows version is scheduled for June delivery.

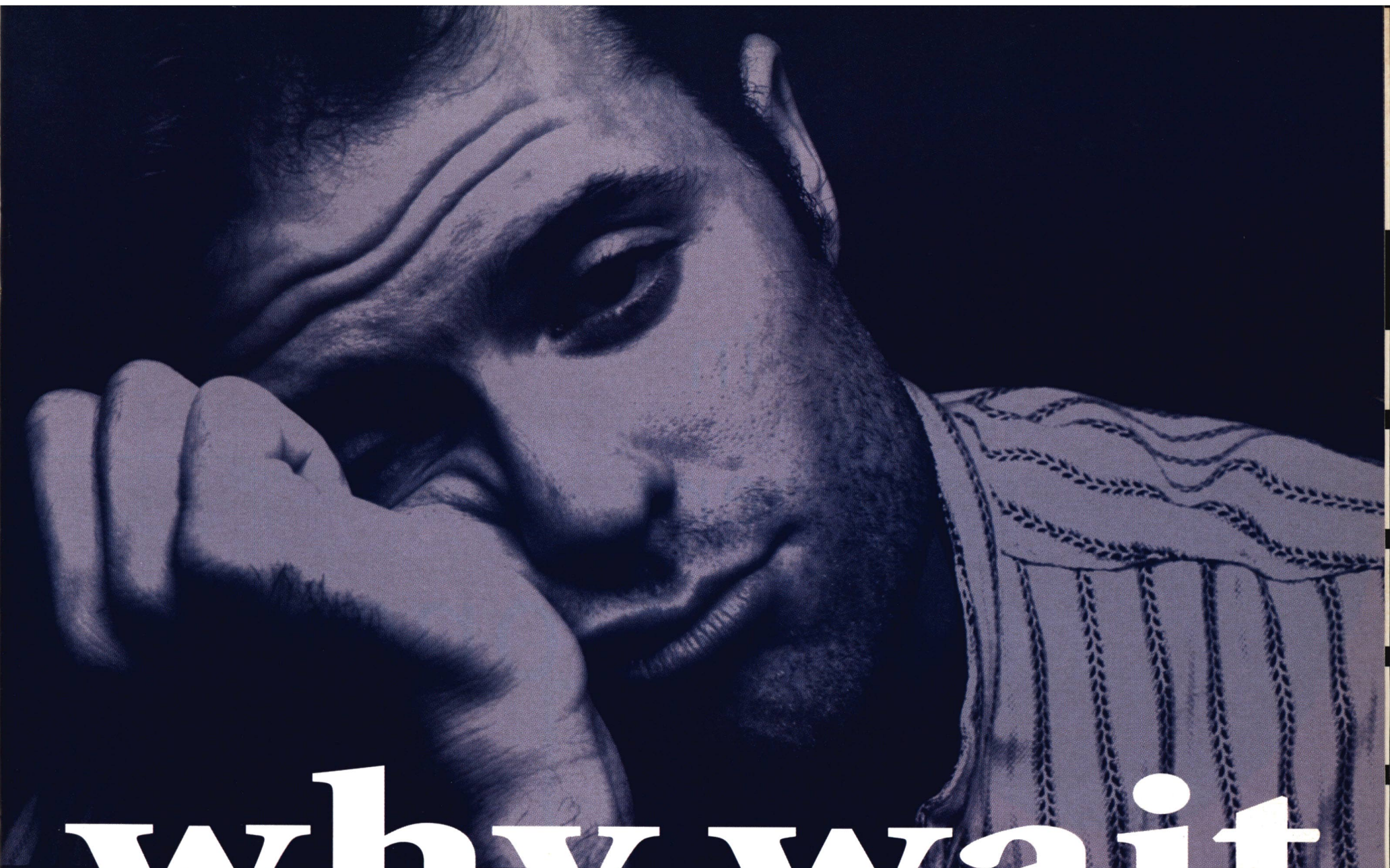
Videonics Inc. of Campbell, Calif., is at (408) 866-8300 or (800) 338-3348; fax (408) 866-4859; http://www.videonics.com. □

GRAPHIC DETAILS



- **VRML browser from Virtus**
- **Xinet offers free upgrade to FullPress**
- **Cymbolic upgrades digital film recorder**

Virtus Corp. of Cary, N.C., has delivered Virtus Voyager, a free Virtual Reality Modeling Language browser for users of its Virtus Walk-Through software. The software lets users view textures and draw on URL (Uniform Resource Locator) links, the company said. Phone (919) 467-9700 or (800) 847-8871, Ext. 21; fax (919) 460-4530; http://www.virtus.com. … **Xinet Inc.** of Berkeley, Calif., last month delivered Version 8.07 of FullPress, a free upgrade to its Open Prepress Interface server solution. The company said enhancements include support for EPS and Contex CT images and the ability to revise FPO (for position only) images to reflect changes to the original files. It also includes the company's Queue Master function, which lets users view, move, hold, restart, cancel and resubmit print jobs from the desktop instead of a server. Phone (510) 845-0555; sales@xinet.com. … **Cymbolic Sciences International** of Richmond, British Columbia, recently announced an upgrade to its $140,000 LightJet 2000 digital film recorder. The device now boasts a $10,000 dual-resolution option; users can now print at 2,032 and 1,016 dpi. The LightJet ships with the company's FireWare Pro software, which provides direct connections to Macs, Intel-standard PCs and Silicon Graphics workstations. Phone (604) 273-7730; fax (604) 273-2775. … **The Color Partnership** of Del Mar, Calif., recently toned up its ColorSynergy color-calibration software. Version 1.2 includes support for **Light Source Computer Images Inc.'s** ColorTron II as well as **X-Rite Inc.'s** DTP51 Auto Scan Colorimeter. A bundle of the DTP51 and ColorSynergy 1.2 is available for $2,895; a stand-alone package is $495. Phone (619) 259-8688 or (800) 554-8688; fax (619) 259-8709; info@colorpar.com; http://www.colorpar.com. … Chicago-based **Monotype Typography Inc.** will ship its DTP Resource CD by month's end. According to the company, the CD-ROM will serve as a one-stop shopping center for designers and desktop publishing pros and will feature locked versions of more than 300 plug-ins, extensions and utilities from such notables as **Extensis Corp., MetaTools Inc., ImageXpress Inc.** and **Xaos Tools Inc.** After ordering a product, users will receive an access code that will unlock the specific product. Phone (312) 855-1440 or (800) 666-6897; fax (312) 855-9475. … **Ricoh Corp.** of West Caldwell, N.J., has announced plans to bundle its NC8115 color copier with San Mateo, Calif.-based **Electronics for Imaging Inc.'s** Fiery XJ 300 controller. According to Ricoh, the $82,995 bundle will output 15 pages per minute. Phone (201) 882-2000 or (800) 637-4264. … **Digital Products Inc.** of Waltham, Mass., and Mountain View, Calif.-based **Adobe Systems Inc.** have taken the wraps off an agreement to develop printer networking tools for OEMs and end users. DPI, a leading network printing vendor, will reportedly be working to combine functions of SNMP (Simple Network Management Protocol) with Adobe PostScript. □



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MacBench 2.0 test performed on Power Mac 8500 24MB of RAM with a 4MB Millennium for PCI Power Mac, 4MB ATI XClaim GA and 4MB 8500 on board graphics chip at 1024 x 768 in 16.7 M colors with Adobe Photoshop 3.0 for Power Mac

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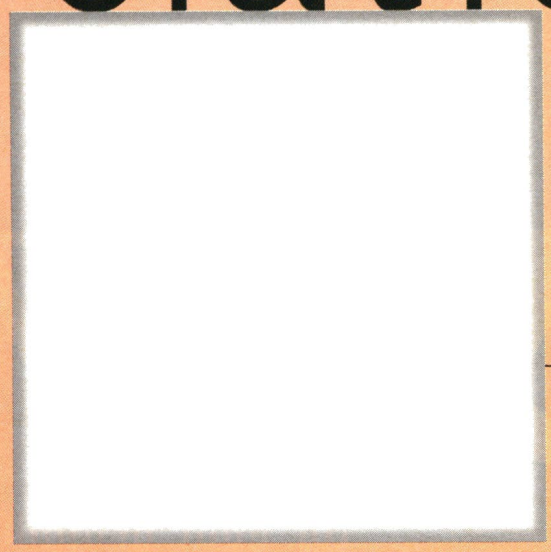
revelations



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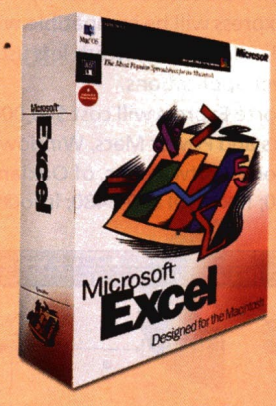

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OT-READY

InterCon Systems Inc. has released an Open Transport-savvy version of NFS/Share, its network file-sharing software.

Omniscience pays off with portable Mac DB

Compact app fits on a PowerBook

By Clifford Colby

At least one company has fully adopted the product philosophy that less is more. Omniscience Object Technology Inc. is now shipping a full-featured database for the Mac that it said is compact enough to put on a PowerBook.

Version 2.2 of the Omniscience object/relational database management system is the first available for 680x0 Macs and Power Macs; the database already runs on Unix, Windows 3.1, Windows 95 and Windows NT machines.

Omniscience is the first object/relational database management system for the Mac, the company said. Omniscience combines object-oriented and relational capabilities and supports both data types.

Macs gain hybrid database

- Supports both object and relational data types; SQL-compliant
- Compliant with ODBC 2.0 specifications
- Can run in less than 1 Mbyte of RAM

The company said Omniscience is compatible with applications written in SQL and object-oriented programming languages and complies with Open Database Connectivity standards. The object/relational hybrid lets users, for example, access a row in a SQL table with a C++ application as well as query instances of a C++ class with a SQL select statement.

According to the company, Omniscience supports transaction rollback and automatic crash recovery. To run in a small amount of RAM, the database can dynamically reduce the size of its caches, Omniscience said.

The company said Omniscience can run in less than 1 Mbyte of RAM, but it recommends 4 to 8 Mbytes and 10 Mbytes of hard disk space. A stand-alone version of Omniscience costs $749 per user; the company said it expects to release a client-server version this summer.

Omniscience Object Technology Inc. of Santa Clara, Calif., can be reached at (408) 562-0799 or (800) 888-8489; fax (408) 562-0757; info@oot.com; http://www.omniscience.com. □

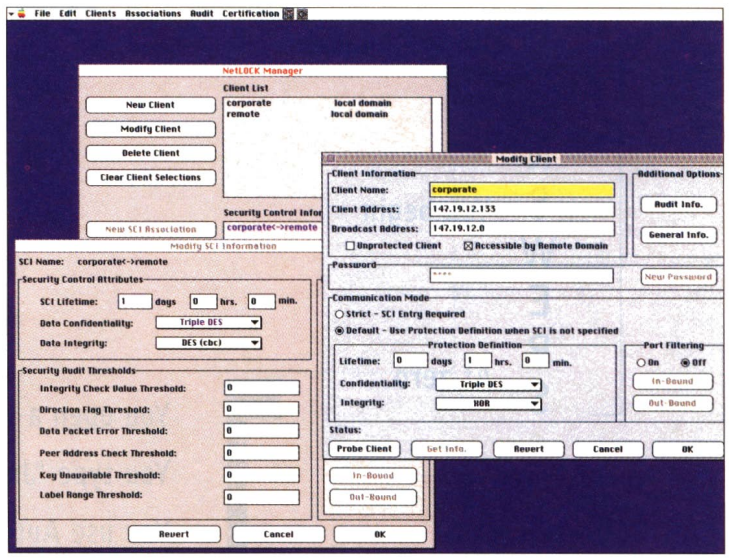
NetLock secures net transactions

By Joanna Pearlstein

Sending secure data transmissions on a network is the business of Hughes NetLock, a business unit of Hughes Aircraft Co., which has announced NetLock, a client-server package for encrypting packets on LANs and WANs.

NetLock creates a "cryptographic envelope" that shields data transmitted over public and private networks. It generates a unique encryption key for each data transmission and provides automatic peer-to-peer encryption and authentication.

See NetLock, Page 16



Hughes' NetLock lets administrators select the encryption techniques for data transmitted over a network.

Forté readies client-server tool

By Clifford Colby

With an eye toward speeding client-server development, Forté Software Inc. said it plans to ship by spring a visual application generator based on the company's high-end database tools.

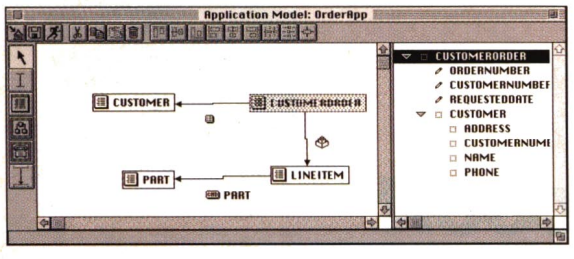
The company said users will be able to import database schema into its generator, Forté Express, and define business and application models; Express will then create distributed applications, including the client-side components and midtier shared services, which manage data access and retrieval.

Forté said Express will let developers quickly create and modify user interfaces — including layouts, menus and buttons. Express will generate native connections to a handful of popular databases as well as support Open Database Connectivity links.

Express will be compatible with the company's high-end development tool, called Forté, which lets users develop and deploy distributed client-server applications.

Forté Express will cost $20,000 per site and will be available for 680x0 Macs and Power Macs, Windows, and Unix platforms.

Forté Software Inc. of Oakland, Calif., can be reached at (510) 869-3400; fax (510) 869-3480; info@forte.com; http://www.forte.com.



With Forté Express, developers will build user interfaces and generate the client components.

MDG lets 4D churn out Web pages

By James Staten

MDG Computer Services Inc. in January turned 4th Dimension into an HTTP server.

Priced at $495, Web Server 4D is a full-featured Web server written in ACI US Inc.'s relational database. Web Server 4D was known as 4DHTTP when it was beta tested over the Internet.

In addition to serving traditional Web pages via HTTP, or Hypertext Transfer Protocol, Web Server 4D can present custom pages based on the client's TCP/IP address, domain name or Web browser. It supports SMTP (Simple Mail Transfer Protocol) and MIME (Multipurpose Internet Mail Extensions) and can limit access to a Web site via password security. An image-

See MDG, Page 16

Sonic, Focus set to join Fast Ethernet parade

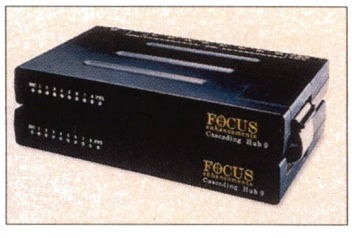
By Clifford Colby

The new year has arrived faster than usual, with Sonic Systems Inc. shipping a family of Fast Ethernet products and Focus Enhancements Inc. announcing its own plans for a line of 100BASE T devices for the Mac.

Among Sonic's new Fast Ethernet devices are one $399 dual-speed 10/100BASE T card for NuBus Macs and a $299 10/100BASE T card for PCI machines. Sonic also shipped a $1,299 eight-port Class II 100BASE T hub in January and intends to release this month an $899 two-port 10/100BASE T bridge for connecting standard and Fast Ethernet LANs.

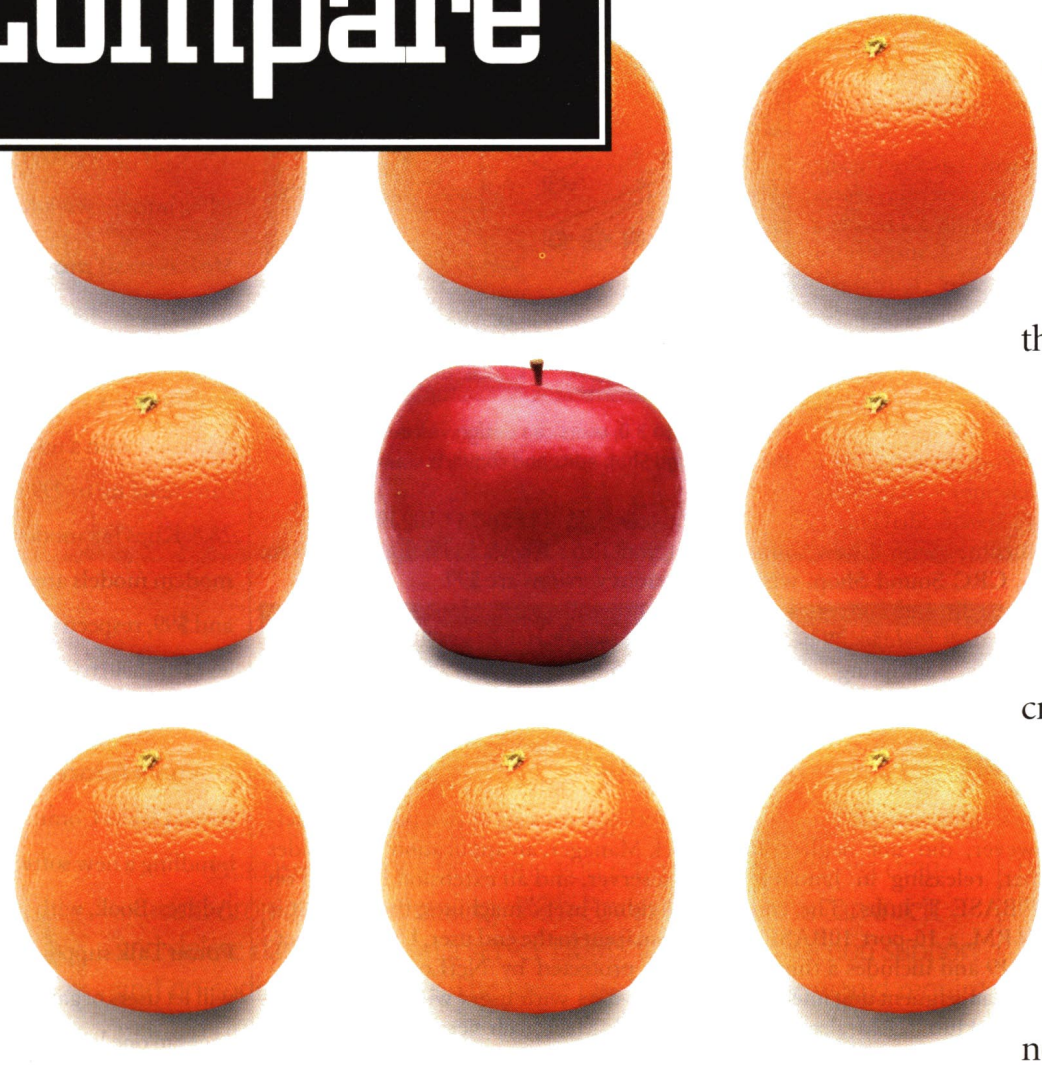
Focus is at work on its own 100BASE T products, with plans to offer 100BASE T and dual-speed 10/100BASE T cards for NuBus and PCI Macs. The company said it is also working on a 100-Mbps Ethernet hub. The company said it expects to start

See Fast Ethernet, Page 16



Focus Enhancements' Cascading Hub9 includes a port on its side that allows users to connect two of the Ethernet hubs together.

Feel Free to Compare



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MacWEEK, Nov. 13, 1995

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MDG

From Page 14

map resolver is also provided.

Because the server is built on a database, it can track statistics about the user's browser and domain type, the type of pages requested, and what page the user visited prior to his or her arrival.

Web Server 4D can also display information and statistics via new HTML tags, including the number of server hits, a user's TCP/IP address, a breakdown of visitors to the site based on domain name or type of Web browser, and the total number of visits to a page.

Web Server 4D can handle up to 15,000 hits per hour and is available in 680x0 and PowerPC versions.

Late this month MDG will ship Version 1.1 of the product, which will add Open Transport support; this will increase the speed of the server and the number of simultaneous connections it can handle.

In addition, Version 1.1 will read HTTP Cookies, a function built into Netscape Navigator that lets a server track a user with a shared TCP/IP address. Version 1.1 will also provide user registration, password administration via a Web browser and random page-serving functions.

Additional new features will include CGI (Common Gateway Interface) support, optimized connections based on the user's connection speed, graphing of statistics and integration with 4-Sight L.C.'s 4-Sight Fax application.

MDG is also developing a version of Web Server 4D that will support the Secure Sockets Layer security and commerce protocol.

MDG Computer Services Inc. of Bartlett, Ill., can be reached at (708) 622-0220; fax (708) 622-8893; sales@mdg.com; http://www.mdg.com. □

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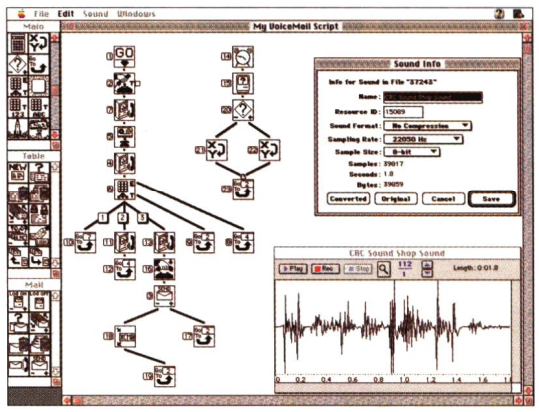
Server to the Macs...

Cypress redials PhonePro

By Joanna Pearlstein

Cypress Research Inc. has released Version 3.0 of PhonePro, its application-development tool for telephones.

PhonePro's icon-based scripting language lets users create voice-mail systems. Version 3.0 boasts a new interface and adds support for additional telephony hardware. Version 3.0's expanded text-to-speech support can be used to create applications that "speak" written text. PhonePro is Apple Telephone Manager-compliant, allowing the program to access a variety of telephony hardware through device-specific drivers.



With PhonePro 3.0, users can design voice-mail systems; the CRC Sound Shop edits and converts sound files.

Version 3.0 comes with a new sound-editing utility, CRC Sound Shop, which can manipulate, edit and convert sound files in a variety of formats. The new version supports sampling ranges between 5,564 Hz and 44,100 Hz.

PhonePro 3.0 costs $349; upgrades from previous versions are $99.

Cypress Research Inc. of Sunnyvale, Calif., can be reached at (408) 752-2700 or (800) 515-8111; fax (408) 752-2735. □

Fast Ethernet

From Page 14

shipping in the second quarter.

Focus, however, did not neglect 10-Mbps Ethernet, releasing in January a handful of 10BASE T hubs. The company's Hub 16RM, a 16-port 10BASE T device, costs $419 and includes a thin-net port and an AUI (attachment unit interface) port. Focus' $699 Hub 32RM also comes with both a thin-net and an AUI port but has 32 ports for making 10BASE T connections. Its EtherLAN Hub 16 V has one thin-net port and 16 10BASE T ports and costs $439.99.

Focus also released in January its Mini-Hub5, a $99.99 hub with four 10BASE T ports and an Ethernet transceiver, and its $169 Cascading Hub9, an eight-port 10BASE T hub with one thin-net port and an additional connection to another Cascading Hub9.

Sonic Systems Inc. of Sunnyvale, Calif., can be reached at (408) 736-1900 or (800) 535-0725; fax (408) 736-7228; sales@sonicsys.com; http://www.sonicsys.com.

Focus Enhancements Inc. of Woburn, Mass., can be reached at (617) 938-8088 or (800) 538-8865; fax (617) 938-7741. □

NetLock

From Page 14

NetLock consists of two parts: the NetLock Manager, an application that resides on a server, and an extension installed on individual users' machines; the product is transparent to the end user. Users on a network protected by NetLock cannot exchange data with users without NetLock installed. Macintosh versions of both the client and server are available.

With NetLock Manager, administrators can choose from several encryption algorithms, including Data Encryption Standard (DES), Triple DES, RC2, RC4 and an encryption algorithm developed by Hughes. NetLock also supports SNMP (Simple Network Management Protocol).

The Open Transport TCP/IP version is shipping now; the Open Transport AppleTalk version will be available in July.

A 10-workstation version costs $2,995; a 20-workstation version costs $4,995. A version for 100 workstations costs $19,995.

Hughes NetLock, a division of Hughes Aircraft Co. of Fullerton, Calif., can be reached at (714) 446-2354 or (800) 494-5548; fax (714) 446-2311; netlock@mls.hac.com; http://www.netlock.hac.com. □

MODEM BEAT

PC Card modems.

TDK Systems of Nevada City, Calif., has debuted two new PC Cards, one that combines a fax modem with Ethernet support and one with fax modem and voice capabilities. The $599 GlobalNetworker 3410 supports 10BASE T, and its built-in V.34 fax modem transmits data at 28.8 Kbps; a $629 thin-net version is also available. The $399 DataVoice 3400 PC Card marries a V.34 fax modem with voice software that lets users talk on the phone and transmit data during the same session. Phone (916) 478-8421 or (800) 999-4835; fax (916) 478-8290; http://www.tdksystems.com.

Voice-mail modems. Best Data Products Inc. of Chatsworth, Calif., has announced two external fax modems with built-in voice mail. Messages can be recorded with a telephone handset; users can create up to 999 voice-mail boxes. The 28.8-Kbps fax modem and 14.4-Kbps fax modem models are expected to cost $199 and $99, respectively. Phone (818) 773-9600 or (800) 632-2378; fax (818) 773-9619; http://www.bestdata.com.

Dayna's AddressBook. Salt Lake City-based Dayna Communications Inc. is bundling a new software package, AddressBook, with its modems. Once PowerTalk support is added, the product will let users organize e-mail, faxes and pages in one location. Currently, the product supports faxing and address-book functions only. Dayna will not sell the program separately. Phone (801) 269-7200; fax (801) 269-7363; http://www.dayna.com.

Viking's PC Card sails. Viking Components Inc. of Laguna Hills, Calif., is now shipping the NetLink 28.8, a PC Card fax modem. The $329 product can transmit data at 28.8 Kbps and faxes at 14.4 Kbps. Phone (714) 643-7255 or (800) 338-2361; fax (714) 643-7250.

— By Joanna Pearlstein

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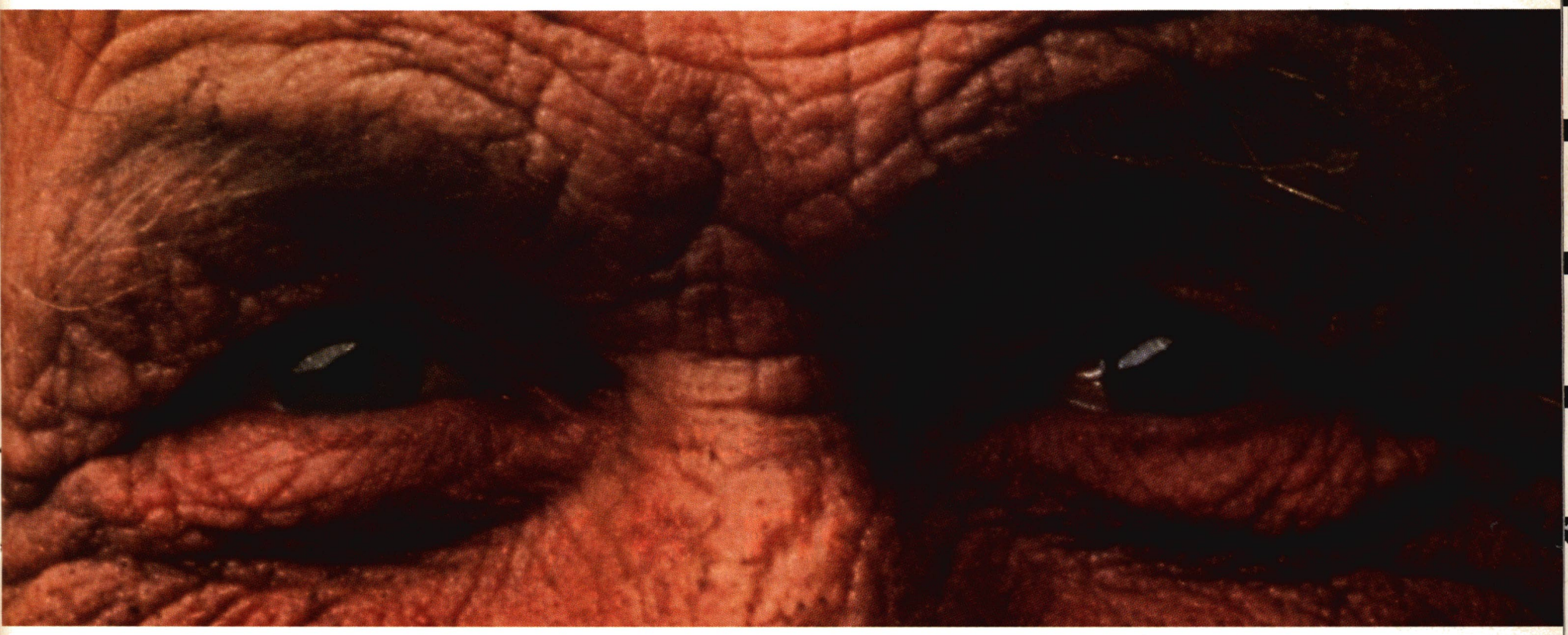

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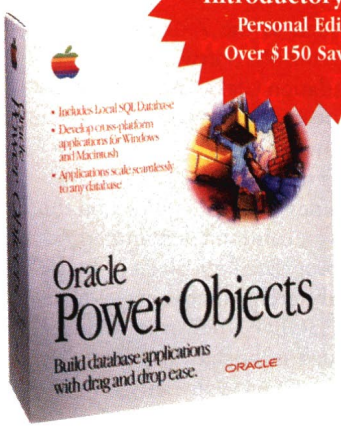
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	Power Objects	Visual Basic
Drag-and-drop database programming	Yes	No
Integrated SQL database	Yes	Yes
Industry standard BASIC language	Yes	Yes
Seamless scalability to Oracle 7 & SQL Server	Yes	No
Native Oracle 7 & SQL Server interfaces	Yes*	No
True object-oriented code reusability	Yes	No
OCX and OLE 2 support	Yes	Yes
Multiplatform: Windows, Macintosh, OS/2**	Yes	No

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Programming for a mix of Mac and PC systems

By April Streeter

Cross-platform tools could help prevent the Mac's demise in the corporate arena.

A stream of client-server, cross-platform development tools is slated to enter the Macintosh marketplace this year. However, giving companies the means to use Macs in their application-development plans won't necessarily make the Mac a more popular client in corporate America.

The Macintosh is currently holding on as the second-most-utilized client in client-server environments, with about 9 percent of the market, according to a report published last year by The Standish Group International Inc. of Dennis, Mass. Theoretically, tools that make it easy to develop applications for Mac clients should be in demand.

Until recently, demand hasn't been met with steady supply, possibly because the No. 1 client choice, Microsoft Corp.'s Windows, owns an overwhelming 63 percent of the total client pie. "There's a ton of tools in the Windows space," said Scott Boyd, spokesman for SmalltalkAgents, a Mac-based object-oriented tool kit from Quasar Knowledge Systems Inc. of Bethesda, Md. "Microsoft understood that leading the way with tools is a way to develop the market. We just haven't had that kind of development on the Mac side."

Boyd said he believes that Metrowerks Inc.'s success with its PowerPC CodeWarrior tools is a good example of Apple dropping the ball in terms of providing home-grown tools. He said he remains hopeful that Apple will back the cross-platform OpenDoc effort with a good set of tools.

Client-server tools

At least in terms of products available, the Mac development-tool market is changing. Jyacc Inc. was a leader, releasing the JAM 7 cross-platform environment for the 680x0 Mac platforms in December, followed by Powersoft Corp.'s late-December release of a Mac version of its popular PowerBuilder fourth-generation-language (4GL) tool. And this spring, Oracle Corp. will add a Power Mac version of the graphical Power Objects tool kit to the recently shipped Mac and Windows versions. Gupta Corp. is also working to get the Gupta SQL for Mac beta to users in the first half of this year.

One reason for this sudden bounty of client-server tools, according to Evan Quinn, research manager for application development at International Data Corp., based in Framingham, Mass., is simply the strength and competitive nature of the market for application-development tools.

"Every once in awhile we say the market can't keep growing, but methodology and technology changes keep it going. We're predicting about 15 percent annual growth through the end of the century," Quinn said.

In this thriving, competitive scene, mainstream players such as Powersoft and Oracle protect market share from smaller, innovative vendors by offering their product on more of the platforms their customers support, Quinn said. He noted that it will be interesting to see whether Microsoft Corp. bows to these pressures and decides to port Visual Basic to the Mac. "I don't know if Microsoft's decided what their strategy will be in this regard, but Powersoft's strategy is to appeal to the corporate mainstream, and in order to do that you've got to expand the breadth of the tool," Quinn said. "I think it will be a surprise how much interest [Powersoft] will get in their Mac version."

There's also a flurry of cross-platform activity from smaller tool developers. In the next 60 days Quasar will release the Power Mac-native SmalltalkAgents and is working on a Windows version of the program for shipment sometime this year. Versant Object Technology Inc. is ready-

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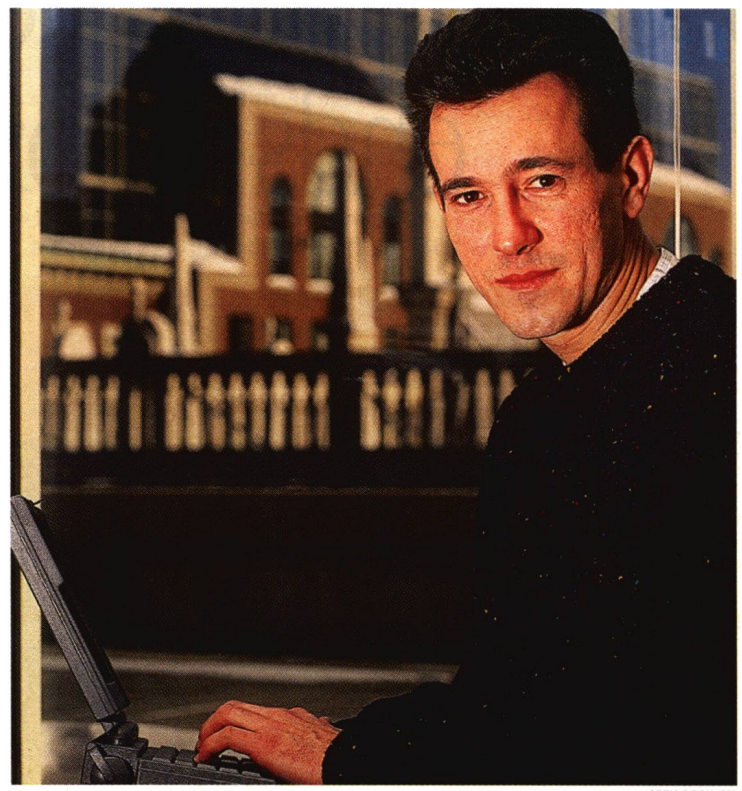

SETH RESNICK

Carlos Nunes, principal software engineer at Houghton-Mifflin, said, "It's still a religious war between the two platforms." After developing applications on Windows with PowerBuilder for his mostly Mac clients, he's banking on Powersoft's promise to develop PowerBuilder for the Mac.

GUEST EDITORIAL CAREY TEWS AND CHRISTOPHER HALL

Managers' development cross to bear

Suppose your company has just hired a vice president who's hooked on Windows 95, and this person wants all future applications to support the Macintosh OS and Win32 APIs. As the manager of computing services, it falls to you to break the news to your Mac-loyal development team. After the dust settles, just how does your team start creating new multiplatform solutions for your in-house clients?

Cross-platform development remains one of the most difficult tasks facing in-house developers today. Whether the end product is an application in C and C++ or a database front end in Oracle Power Objects, development teams must make a commitment to careful planning and research.

Given a good group of coders, we have repeatedly seen that the choice of development platform and tools has made the difference between a successful development cycle and a debacle that meets few of the project specs. This means that the research component of R&D is the first key to successful development.

There are two general paths for Macintosh-Wintel development: a third-generation language (3GL) such as C or Pascal with an application framework or a fourth-generation language (4GL) environment for rapid application development in a client-server database environment. Each has pitfalls peculiar to cross-platform development.

4GL power drain

Using an application framework is normally an empowering experience for coders, even as they climb the framework's learning curve. Metrowerks Inc.'s PowerPlant, Symantec Corp.'s Think Class Libraries, Apple's MacApp, Microsoft Corp.'s Foundation Classes and Borland International Inc.'s ObjectWindows are all useful frameworks for their respective platforms. Yet when projects use cross-platform frameworks such as the Zinc application framework from ZNC Software Inc. or Microsoft's Foundation Classes for the Macintosh, this empowerment becomes a constant discovery of how the cross-platform framework sacrifices the Macintosh Human Interface Guidelines and the Toolbox on the altar of the lowest common denominator.

4GLs, if appropriate for a given in-house project, have different disadvantages than cross-platform 3GL frameworks. Using a Mac product such as the stalwart FileMaker Pro from Claris Corp., you can easily develop applications for both platforms while maintaining a consistent interface. Other choices, such as Oracle Power Objects, while tremendous enabling technologies, often end up favoring the Windows-Intel interface over the Mac interface. Another consideration is that the ease of development in most 4GLs is countered by the ongoing creation of big, slow applications. Applications developed in 4GLs are often larger and slower than their 3GL counterparts, yet this may not be a detriment depending on the time, hardware and other project requirements.

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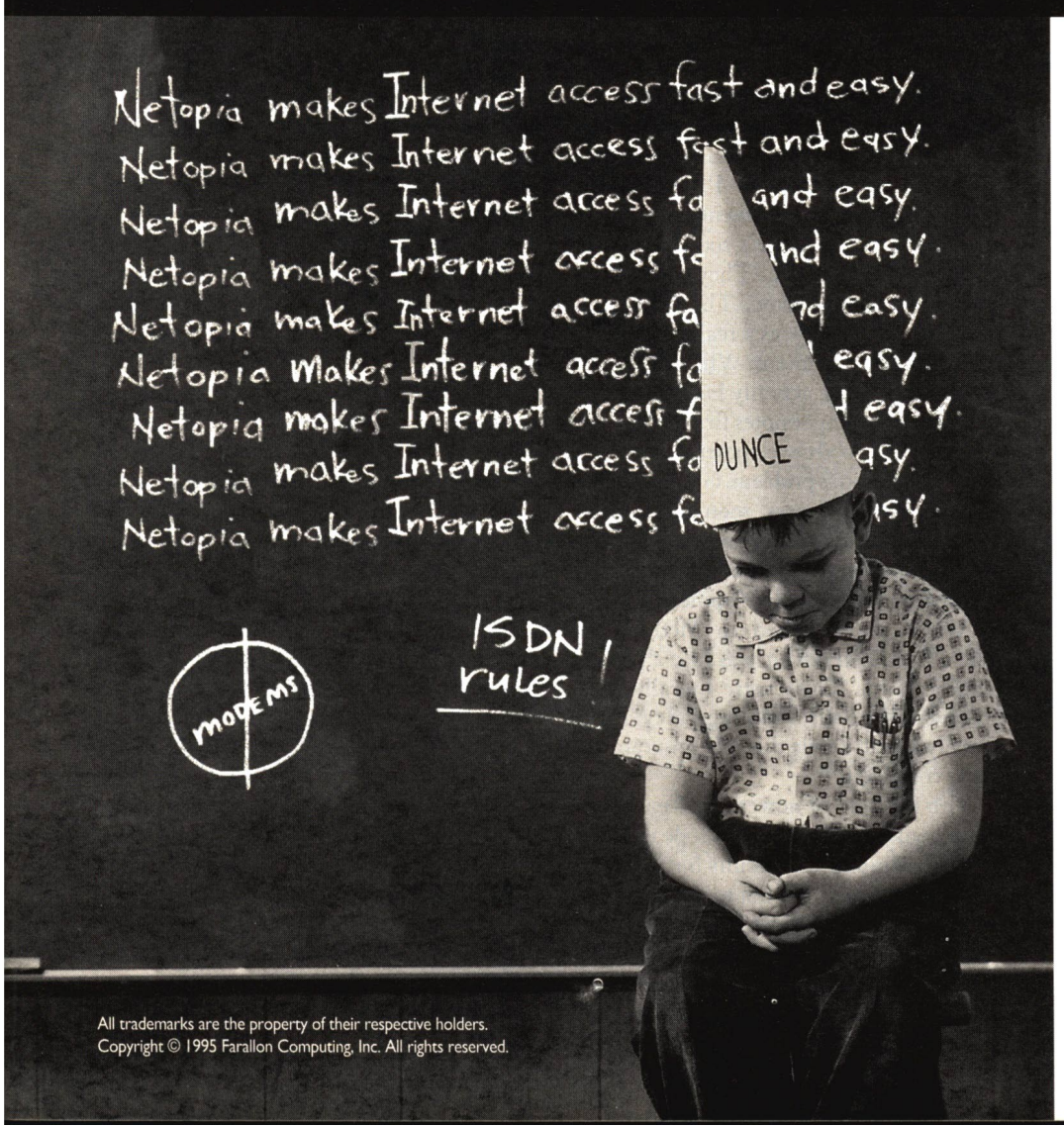
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CASE STUDY

Developer surprised at ease in going from Pascal to C++

By John Paff

Graphsoft ends up ahead after its move to an OOPS, despite development time lost.

When Graphsoft Inc. of Columbia, Md., made the decision to port its cross-platform application MiniCad to object-oriented C++ three and a half years ago, management and staff were understandably nervous. This was not a small decision. There was the sheer scale of such a project to consider. With an application consisting of more than 600,000 lines of code, the change from one language to another — Pascal to object-oriented C++ — was an intimidating prospect.

"We debated the matter vigorously amongst ourselves for at least three months," said Graphsoft's chief programmer, Sean Flaherty.

Like many organizations considering such a move, Graphsoft's biggest concern was the potential risk to the quality of its product line. Another major consideration was the potential commercial risk that might result from what would, in effect, be lost development time. For Graphsoft, as for most organizations, such transitions mean the full-time commitment of all available programming resources to the migration process instead of product enhancement.

"Instead of spending six months to a year as we normally do adding new features, we would end up spending that time entirely on a conversion that would, hopefully, be totally transparent to our users," Flaherty said.

The decision to change to an object-oriented programming system (OOPS) and C++ was ultimately driven by technological change more than anything else. The change to C++ was potentially risky but a necessary investment in Graphsoft's long-term future and commercial viability. Also, according to Flaherty, Apple seemed to be sending clear signals that it felt the Mac's future seemed to lie in C++. It had, after all, just ported the Mac OS to that language.

But ultimately it was the introduction of the Power Mac that became the catalyst. Graphsoft wanted to develop applications that took full advantage of the Power Mac's sheer power, and that meant it had to make the change to C++. There just weren't any other development environments available at the time. To Graphsoft, the long-term risk in not converting would mean missing out on an important part of the Mac's future.

"We realized that the transition would probably mean a lot of extra work — and that we might take a small hit, short term," Flaherty said. "But we felt certain that our changing to OOPS would make us far more competitive in the long term."

After three months of vigorous internal debate, Graphsoft decided to take the plunge.

Implementation

Like many organizations that decide to make the change from traditional structured coding to an OOPS, Graphsoft opted to attempt to port rather than rewrite its existing code. But at 600,000 lines, some outside professional colleagues were highly skeptical such a port could be accomplished successfully — or at least done cost-effectively.

"Those that thought we could do it all figured it would take us at least two years to get a shippable product," Flaherty said, "but, in fact, one of the things that far exceeded our most optimistic expectations was how incredibly well the port went."

Using p2c from Sierra Software Innovations Inc. of Incline Village, Nev., Graphsoft was able to get a working code-converted version of MiniCad up and running in a matter of weeks. Debugging the port to make it shippable would take far longer than that, of course. But the total time to convert the then-current version was less than six months.

Positive outlook

"The entire transition went much more smoothly than we ever hoped for," Flaherty said.

As noted, p2c — the commercial software used for the code conversion — performed far better than Graphsoft, or even Sierra, its creator, actually thought it would. This success undercut the legacy-code arguments that had, at the beginning of the decision-making process, weighed so heavily against undertaking the change.

The switch to C++ also yielded other unexpected benefits as well, including an unanticipated boost in the product's performance on 680x0-based Macs.

But the biggest and most unexpected plus for the programmers of Graphsoft was, according to Flaherty, the C++ development environment itself.

"It was just so much richer and more elegant a development environment than we ever expected."

On the other hand, some aspects of the conversion process were tougher than the group had counted on. According to Flaherty and others, the most frustrating aspect of attempting a conversion three years ago was working with the earlier versions of Apple's Macintosh Programmer's Workshop C++ development tools.

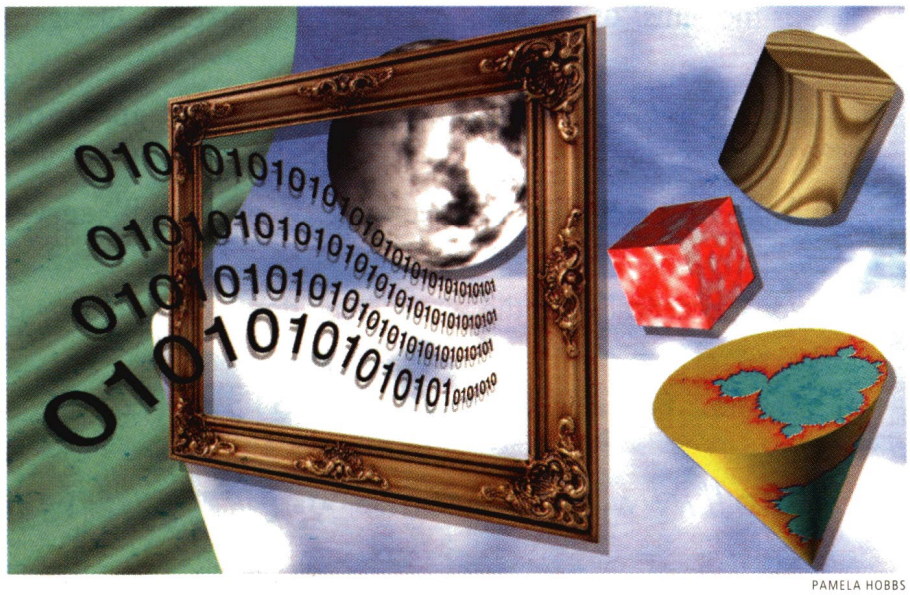
"At that time, Apple's tools were just terrible," Flaherty said. "They were buggy and excruciatingly slow. The debuggers [were] the worst. It was a really awful development environment. When the application crashed we actually headed for the compiler's developer notes first."

The lack of good development tools began to become a serious problem. Graphsoft, like many other developers, soon found itself spending as much or more time supporting the development environment than they did the product under the development.

"When we switched to Metrowerks [Inc.'s CodeWarrior] it was like a party," Flaherty said. "Guys were literally celebrating in the halls, shouting: 'Hey, I was actually able to debug this. My program actually compiled.' "

With the help of newer third-party development tools, Graphsoft's code not only began to compile successfully but did so in a third of the time. "What took more than three hours to recompile before now took under an hour," Flaherty said. "We saved a huge amount of time that we were then

See Graphsoft, Page 24



PAMELA HOBBS

Guest editorial

From Page 18

With these facts in mind, trust your team to help make these decisions with you. Forcing your developers to work against their best interests by using awkward or inappropriate tools can result in frustration and a sudden loss of able brains.

Example scenario

The client-development team of a large company is writing a telecommunications product for a customer base with the average 9-to-1 split of Windows-Intel to Mac users. Maximum code reuse being a requirement, the developers examined and test-developed under the ZINC cross-platform application framework, eventually deciding against it. Immediately after this perceived failure to make ZINC work, management mandated that all development be done under Microsoft Visual C++ and migration to the Mac would be via Microsoft's Cross-Development Environment.

Several members of the development team urged management not to consider MSVC++ CrossDev for three reasons: the compiler uses a Macintosh Portability Layer, which means that the Toolbox is hardly used at all; the compiler generates only 680x0 code; and because of the first two, the product would be emulated not once but twice on a Power Mac. (Version 4.0, released in January, does run native.)

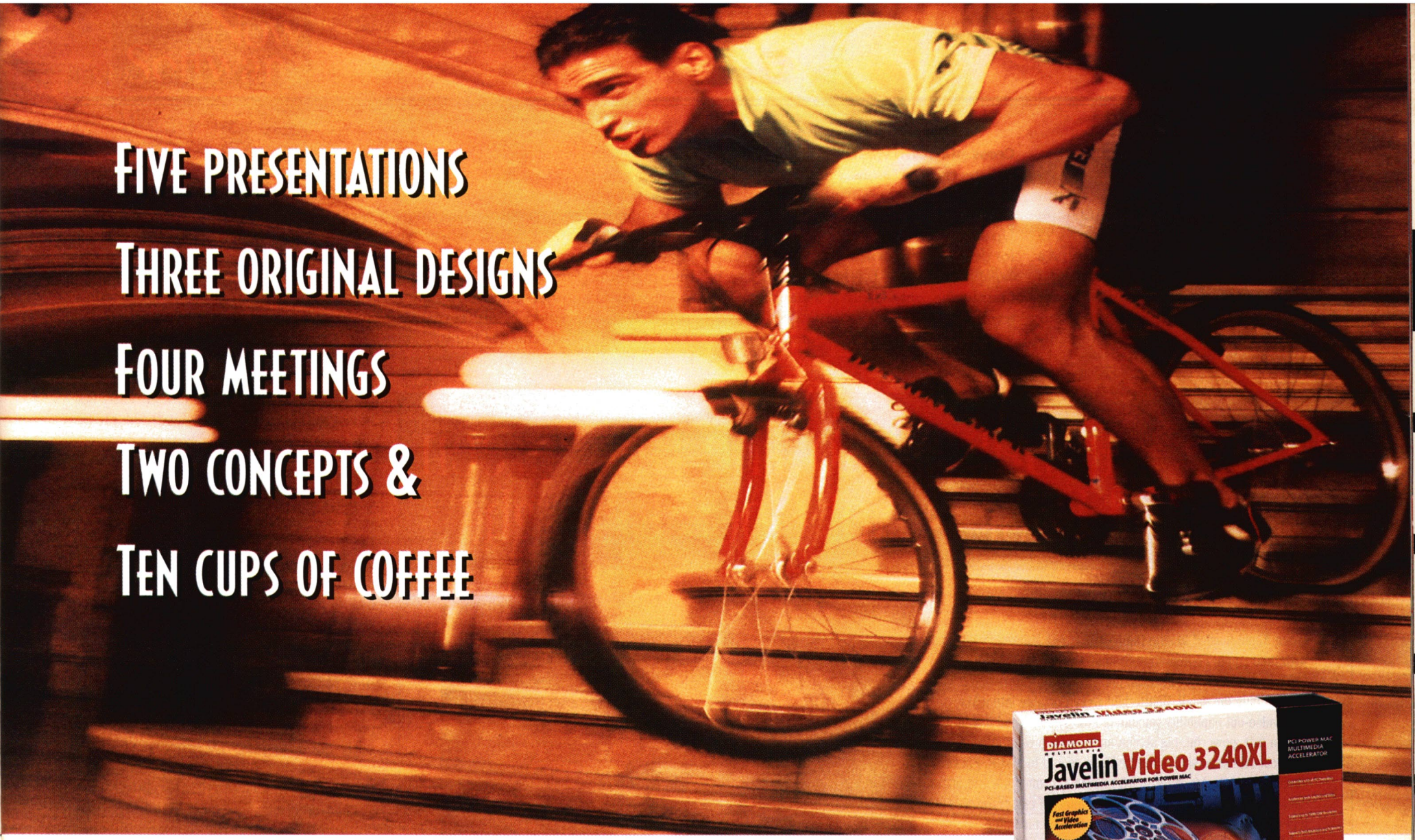
For these reasons, the developers urged rearchitecting of the application into platform-independent core code (the business rules and other internal workings) and platform-dependent interface code. This would allow this C++ project to use the best application framework for each platform. In this case, the developers wanted to use Metrowerks' CodeWarrior with PowerPlant on the Mac instead of using MSVC++ for both platforms. Management decided against CodeWarrior, because it is easier, from an upfront-cost standpoint, to write the code one time, tweak it for the Mac and be done with it.

Version 1.0 of the product was released in 1995 and warmly received by 90 percent of its users. Unfortunately, the Mac product has had many nearly unresolvable anomalies, as well as high user dissatisfaction because of horrible performance. The developers continue to urge management to "do the right thing" for the Macintosh users and are still touting CodeWarrior and PowerPlant.

We hear echoes of this experience all over the development world. Developers want to write their code once for multiple platforms, but that has not happened.

As developers of in-house and commercial software, we believe that there are two ways you can go with your cross-platform projects. If you are currently using a 4GL with a sister product on the other side, use it. If, however, you are using a 3GL, you would do well to rearchitect your code so that the core functionality can be written once and have the best interface for any platform. □

Carey Tews and Christopher Hall are principals in The Software Brewing Co. They can be reached at sbc@pundits.net.



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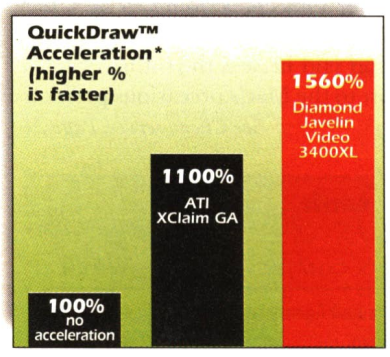

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Client-server

From Page 18

ing a Macintosh version of Argos, Pictorius Inc. is porting both Mac-based ProGraph CPX and Peregrine tools to Windows 95 and Windows NT, and InSync Corp. has a Mac client in the works. All are set for delivery in 1996 (see chart below). These tools help bring increased functionality, such as object technology and three-tier programming, to the Mac tool arena.

Cross-platform wasteland

Whatever the reasons vendors have for preparing new cross-platform tools, the beneficiaries are clearly corporate users. Up until a year ago, the pickings were slim for developers who needed cross-platform capabilities, with Blyth Software Inc.'s Omnis the only obvious candidate. In terms of 4GL and ease of use, "There wasn't much," said IDC's Quinn. "Omnis pretty much held the spot."

Large sites that did bet on Omnis now voice some concern that Blyth, which has weathered financial storms in the past year, might not survive the coming competitive onslaught. "In 1992 when we knew we had to operate on the Mac and Intel platforms, Omnis was the only thing around. Had I known then that in December 1995 Wintel would be our corporate standard, I still would choose Omnis," said Hans Schneider, chief of the loan systems division of the World Bank in Washington, D.C.

Carlos Nunes, principal software engineer at publisher Houghton-Mifflin Co. in Boston, was faced with a similar bleak array of cross-platform tools when he embarked on application development in 1993. However, after evaluating Omnis and higher-end tools from Forté Software Inc. and Dynasty Technologies Inc., Nunes decided to bank on Powersoft's promise that it would develop PowerBuilder for the Mac platform. "I really believed in PowerBuilder and wanted it to be our corporate standard," Nunes said.

In the meantime Nunes developed Houghton's decision-support and revenue-forecast application on Windows with PowerBuilder and deployed it on Intel-standard workstations for the company's mostly Mac editorial departments — with rather mixed results. "They didn't like to be forced to use Windows," Nunes said. "It still is something of a religious war between the two platforms."

Despite a first PowerBuilder Mac beta that Nunes describes as "really bad," he persevered with testing, and just recently ported one of his applications to the Mac with good results. "Seventy percent of what our users need is access to data, so I think we were lucky in that we didn't have a really fat client," he said. Matching fonts on the Mac side was the only area that required extra tinkering on Nunes' part. "PowerBuilder's now very, very clean. And the most important result is that the application is much better received by users than it was before."

Oracle's new Power Objects cross-platform environment for the Mac attracted similar praise from user Barry Johnson, president of developer Dynamic Information Systems of Minneapolis, Minn. "This is a big benefit for our Mac development projects. The combination of a graphical environment and integration with Oracle on the back end makes Power Objects a watershed product," Johnson said. While Power Objects is purported to be weak in terms of its report writer and code editor, Johnson said he finds the program to be a huge labor saver. The Power Mac version will just be icing on the cake, he said. "Having a native SQL*Net and a native Power Mac Power Objects is going to be a big help for us."

Johnson said he sees the influx of tools as a boost to the Mac's precarious position

See Client-server, Page 24

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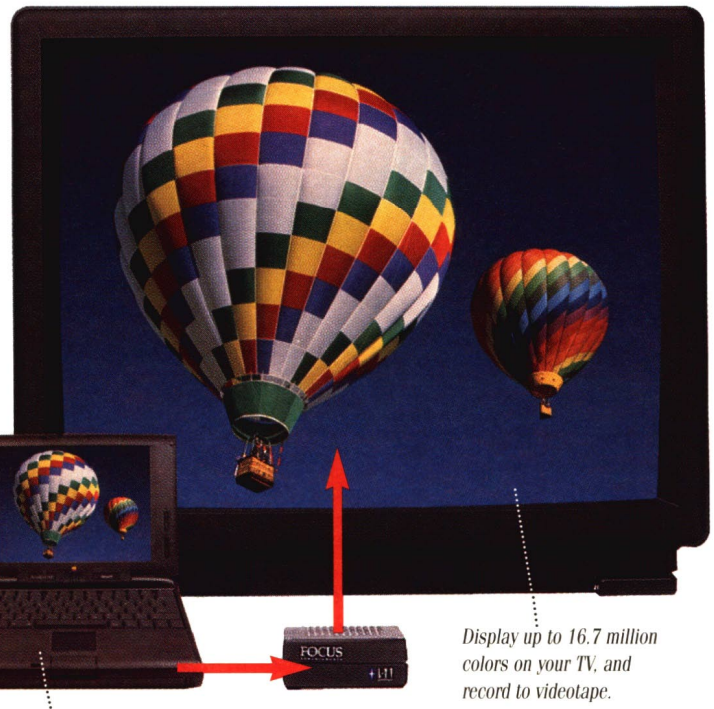

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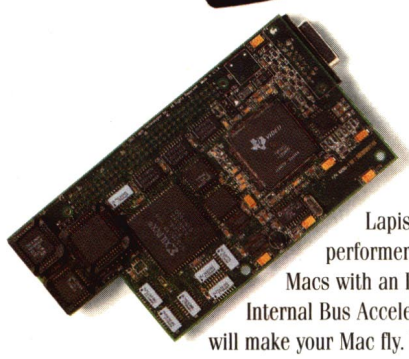

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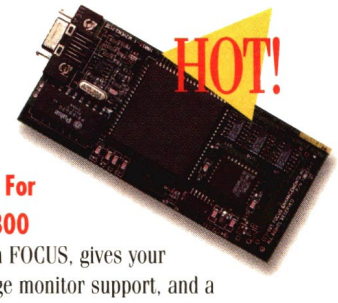

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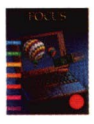

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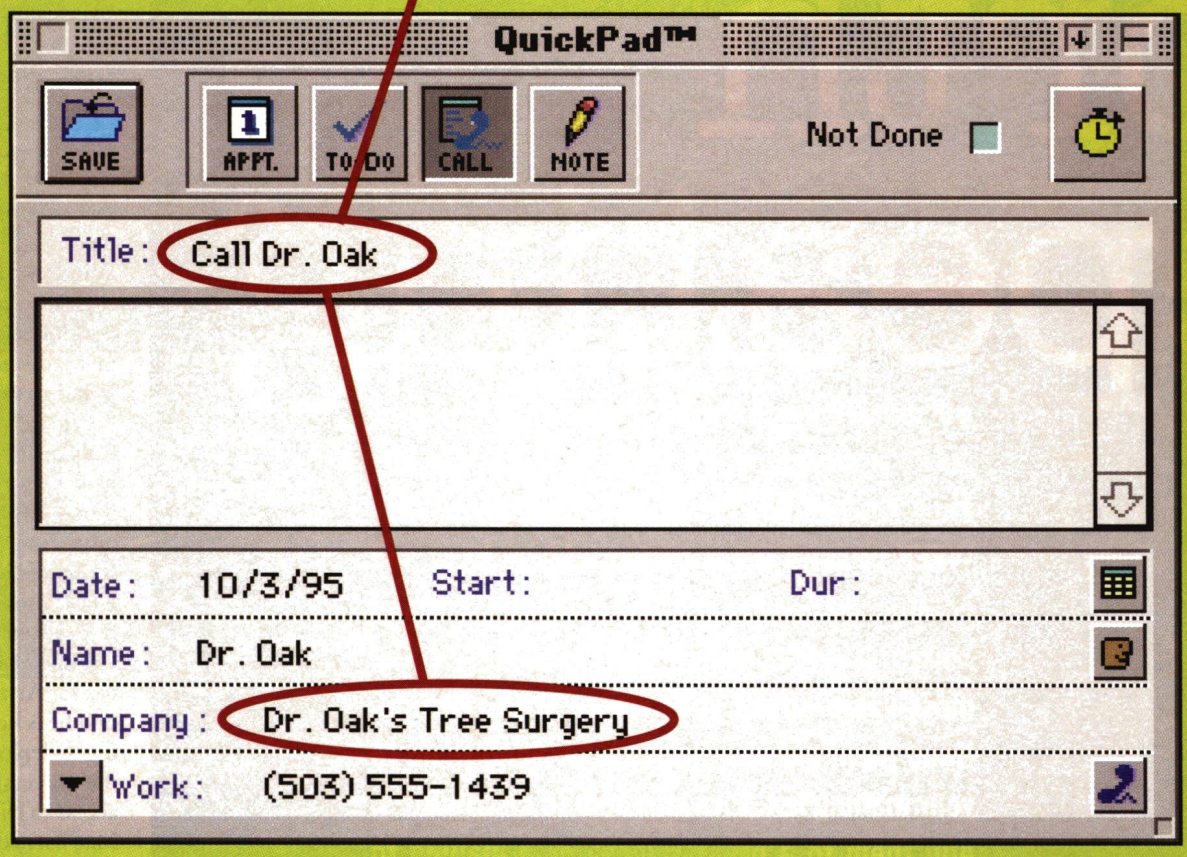

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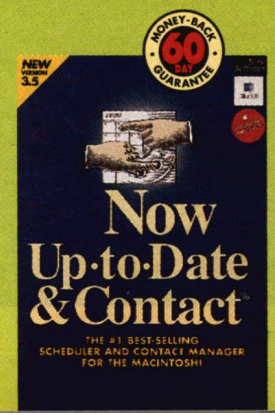
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Graphsoft

From Page 20

able to put into improving our product, rather than into coping with its development environment."

Tough class

One thing that was far tougher than imagined was learning C++. "We were a team of Pascal-only programmers and we had to teach ourselves everything," Flaherty said. "While learning C was actually easier than we thought it would be, C++ was far tougher and more complex syntactically than any of us had expected."

Another unanticipated problem was the differential rate at which the Graphsoft team took to the new language and OOPS methods. For the first time, the team found that it had some programmers writing code that others, initially, couldn't understand. But between internal classes and Apple's "developer kitchens" and strong PowerPC support, the Graphsoft team found the learning experience, while arduous, a worthwhile investment in the company's long-term future.

"I'd have to say that our experience was extremely favorable — far better than we ever counted on. I certainly think that if we could do it with 600,000 lines of code, others can certainly do it with smaller applications," Flaherty said. □

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MacWEEK

Client-server

From Page 22

at standards-minded corporations. "I think [they] help stem the tide in terms of corporations bailing on the Mac," he said. "There is a lot of [Windows] standardization going on, and a lot of freezes on new Mac acquisitions. But I'm biased toward the Mac, and I think politically critical groups will continue to want to use them."

IDC analyst Quinn agrees. "I think the tools help prevent erosion of the Mac's hold in the corporate area. Lots of Fortune 1000 companies are trying to move away, but these tools make it easier to keep the Mac client base."

Despite this optimism, there's a growing undercurrent of belief by some of the dozen or so developers interviewed for this article that more cross-platform development tools, while they might meet pent-up demand for Mac-based client applications, won't help Apple regain ground lost to Windows-Intel desktops.

> "I'm feeling that the sooner my application is available on Windows, the sooner we'll all lose our Macs."
>
> *— Eric Knapp*

Eric Knapp, an engineering application developer at Wisconsin Power & Light Co. in Madison, said he eagerly awaited the Windows support for ProGraph CPX and Peregrine from Pictorius. As Windows standardization swept the utility company, he became less eager. "I'm feeling that the sooner my application is available on Windows, the sooner we'll all lose our Macs," Knapp said. "It's starting to seem that the whole cross-platform ideal works against [Mac] users."

Roger Lurie, applications systems analyst for Arizona State University in Tempe, said he is hoping to get the necessary funding to deploy PowerBuilder for Mac so that the university's Mac population gets equal access to client applications. "Many of our Mac users expect us to give them the same set of applications," Lurie said. At Arizona State, Macs own about 12 percent of the client pie, a slightly larger share than The Standish Group report's average. While Lurie won't speculate on the university's future Mac purchases, he said he doesn't think enough tool vendors have ported their products to make a critical difference for the Mac as a client in its enterprise applications. "I'm speaking from my own bias," he said. "But with the Texas Instruments environment we're using for enterprise applications, originally we were promised a Mac client and then they backed off. We're not sure we can really support Macs [in client-server]. To me it doesn't look very good for Mac users on our campus." □

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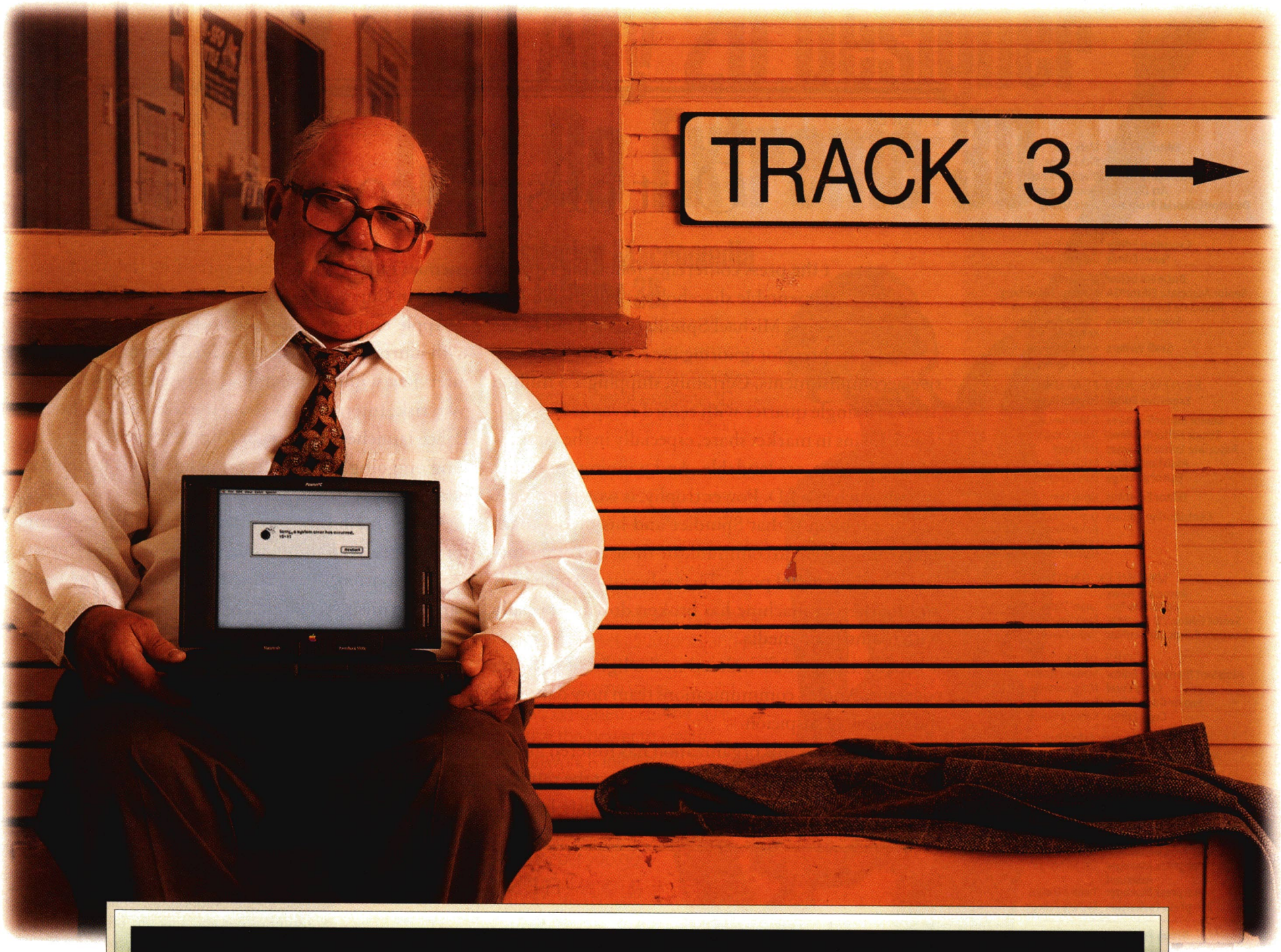

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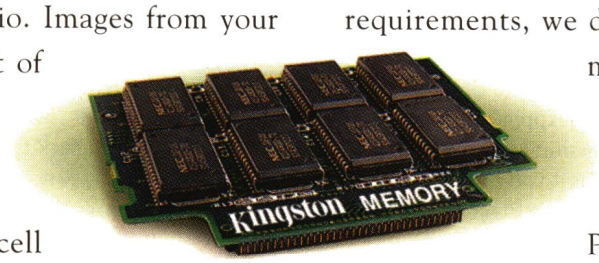

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BPA INTERNATIONAL

Out of spin control

At the press conference following Apple's lamentable shareholders meeting in January, Michael Spindler lashed out at the press for ignoring the company's impressive accomplishments. Certainly, shipping 1.3 million Macs in a single quarter with record revenues is sensational. Gains in market share, especially in the vital education market, are laudable. And winning consumer awards, such as a J.D. Power trophy, is worth noting.

The problem is that Spindler and his media managers cannot seem to communicate these and other successes to the general press. That is because Apple's PR and marketing machine has broken down, especially with mainstream media.

Once a troupe that waltzed in the light of glowing coverage, Apple's communications team now dances in the shadow of suspicion.

In recent years this organization has fostered an environment of distrust of the media among the ranks of Apple's executives and workers. Journalists became enemies rather than allies in spreading the word about events in Cupertino, Calif.

Apple employees learned to fear their friendships with journalists. Executives who dared to have a press interview without a "handler" present did so at their own risk. Internal fears about the company's Thought Police launched rumors that Apple security was scanning outgoing phone calls for connections to newspapers' prefixes. Paranoia struck deep.

Apple's media mavens often showed their contempt for the press with thinly veiled manipulation, efforts to coerce reporters not to run certain stories or by being parties to misinformation. The prevailing strategy fixated on spin control instead of the simple truth.

The situation has now reversed itself in the extreme. The media are overreacting to Apple's current problems. But the company's credibility with the press is so low that it is now impossible for Apple to tell its side of the story and get anyone to listen.

Truth, once again, has become the victim. □

THE SECOND DECADE HENRY NORR

Passing observations on a corporation in crisis

I got up early last Monday specifically to read CEO Michael Spindler's open letter to customers, which ran in major newspapers around the country. I should have stayed in bed.

I'm glad to know that the "idea of individual empowerment continues to be the driving force behind Apple" and that "Apple's mission remains as vibrant today as it was in 1976."

But I wasn't looking to see old clichés reiterated. What I was hoping for — just as I was when Apple issued its first-quarter financial report and then again at the annual meeting — was some indication of how, concretely, Apple plans to change its business model so it can compete effectively and still prosper. I didn't expect all the details now. I know that turning a big ship around takes time. I did hope to be convinced that the helmsman has a hand on the tiller and a direction in mind.

Unfortunately, nothing in that letter provided such reassurance. If Spindler has nothing meatier to offer, I say scrap the ads and save the money.

Some Apple loyalists blame the media for sensationalizing a routine business setback — one bad quarter — into a life-threatening disaster. They point out that the company has bounced back from several similar downturns in the past.

I wish I could agree that the current crisis is no more profound than those others turned out to be. But this analysis leaves out one salient fact: There's a lot more room to maneuver when gross margins are at 50 percent than when they're at 15 percent.

Might-have-beens

I was sorting through some papers last week when a clipping from InfoWorld dated Dec. 14, 1987, caught my eye. It reported on a speech by John Sculley in which the then-Apple CEO told financial analysts that the company was rewriting the Mac OS to provide greater support for communications, multitasking and links to other operating systems. "In the 1990s interpersonal computing will replace personal computing," he reportedly said. Other company officials, according to the story, "stressed that the changes Sculley spoke of will occur over time — perhaps two or three years."

Lost code

Perhaps he was talking about the Pink OS; in 1991 Sculley said a million lines of code for it already existed. Then it became Taligent, now in the bowels of IBM Corp. Or maybe he meant PowerTalk — another million lines of code lost.

I think of this history whenever I hear it suggested that getting out of the hardware business would solve Apple's problems. Sure, margins are higher in software — if you have a viable product. In fact, dramatic improvements in hardware has kept Apple in the game for the past five years. QuickTime aside, what comparable achievements has the software side of the house produced since System 7?

Whoever runs Apple, Spindler or Sun Microsystems Inc. CEO Scott McNealy, focusing only on software is no panacea. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or eWorld or at henry_norr@macweek.com.

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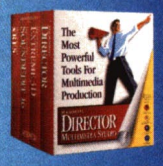

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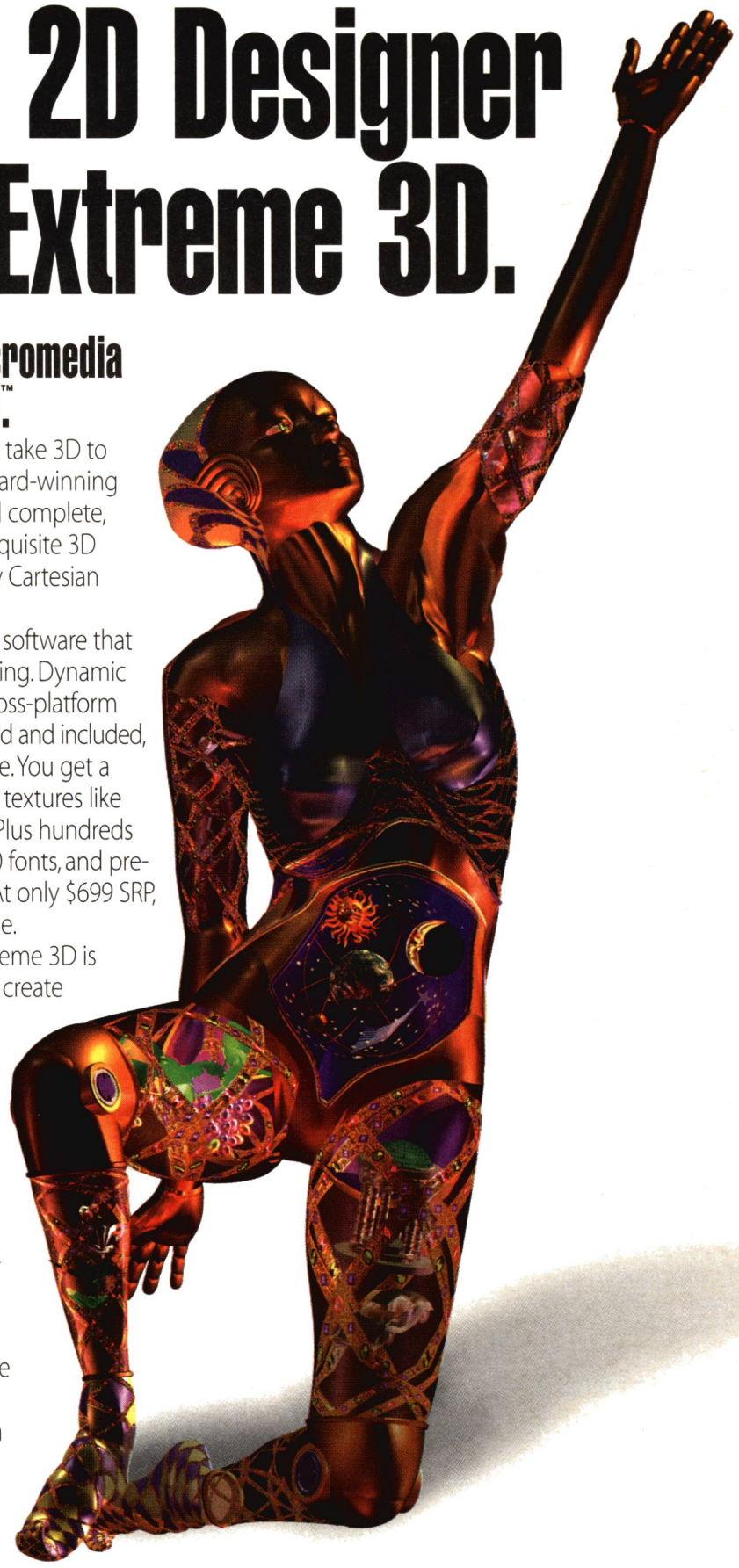

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LETTERS

Merge companies, not OSes

I read with interest your comments on the possible Sun-Apple merger (01.22.96, Page 3). I've been using Solaris for several years now, and my first computer was a Mac SE, which I still use today.

You state that one of the benefits of this merger would be "grafting the Mac interface onto Solaris," which I feel would be a big mistake.

Don't get me wrong, I love the Apple interface. But after using OpenWindows, I feel babied when I use my Mac. It just doesn't offer me the power and flexibility my Sun SPARCstation does.

Your comments further into the article comparing Windows NT and Windows 95 to Solaris and the Mac OS are right on. But I think it would be unwise to make a single user interface like Microsoft is doing because you force users to change their computing behavior rather than concentrate on being productive. For Microsoft this is not a big deal because its interfaces are very poor, but this is not the case for Sun-Apple. Additionally, there are some serious differences between educational and scientific computing both in performance and tunability requirements. I fear that if the Mac OS appears on a SPARCstation as the only available interface, Sun would lose market share where it has been so successful.

Jack Valko, Unix network analyst
Asymetrix Corp.
Bellevue, Wash.

Newtons at work

Kudos to Henry Norr for his column (01.15.96, Page 22) on the Net phone. Bill Gates had proposed a similar idea for Microsoft's now-defunct At Work technology and had even lined up a group of office-product manufacturers to build smart phones and fax machines based on At Work. Now that Microsoft's invasion of that territory has been (at least temporarily) thwarted, Apple is in a position to gain market dominance in the smart communications appliances.

Mr. Norr submitted Pippin and the Newton as candidates for the Net phone, but I would suggest the latter, as the Newton has a very fast, multitasking, ROM-based operating system with a robust communications architecture that already possesses all the hooks for the additional hardware required. Siemens Private Communications Systems Group is already marketing a Newton-based smart phone, called the NotePhone, in Europe. Particularly interesting is Norr's report that Oracle Corp. is developing e-mail software for Philips' smart phone, since Oracle has of late shown so much interest in the Newton.

Here's an idea: How about replacing public pay phones with Newton-based Net phones? For a small fee, users could send or receive faxes, check their e-mail or browse the Web — from anywhere in the country.

Mark Waldron
Huntsville, Ala.

Shot across the bow

Another salvo has been fired in the war to rid me of my Mac. I am an electronics engineer at the Naval Surface Warfare Center in Port Hueneme, Calif. I am one of the few holdouts that still uses a Mac in a Windows world. The latest challenge I must face is security.

My command is to meet the C2 Trusted Level requirements of the Department of Defense's 5200.28-STD Trusted Computer Security Evaluation Criteria.

To be compliant, it has been determined that Windows 3.11 and Windows 95 users must upgrade to Windows NT. Mac users can also become compliant by, you guessed it, upgrading to Windows NT. I've been a Mac user since 1984 when I bought the original Macintosh 128K. I don't want Windows NT.

Is my Mac a dinosaur? Is it doomed to extinction? I heard this security requirement is supposed to cover the entire Defense Department. Is Apple being drummed out of the Defense Department business? My new Power Mac purchase plans are in jeopardy.

Tom Emmerich
Naval Surface Warfare Center, Advanced Tomahawk Weapon Control Systems
Port Hueneme, Calif.

Define your terms

Your writers seem to have a fetish with the word "kiosk." I am having difficulty migrating it to computer terms, and even in context cannot understand its use. Also, on a similar note, there are a number of undefined acronyms that appear in your publication. My suggestion is to reserve a page at the back for a glossary where the uninformed reader would at least have a source for deciphering this code and have an opportunity to follow the content of the articles.

Richard R. Wittneben
Cape Girardeau, Mo.

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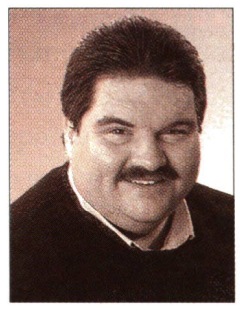
THE MAC MANAGER DON CRABB

Heidi chronicles: Roizen begins new developers era

When Heidi Roizen called me last week, I was surprised but very happy at the news. She told me she'd signed on to become Apple's new vice president of Developer Relations. Finally, I thought, a savvy outsider who understands the needs of Macintosh developers and the realities of the software marketplace is taking the reins. That's one for the good guys.

Roizen replaces Shirley Stas, who had been the acting vice president for many months and who had done a first-rate job. Stas has been instrumental in getting the Developer Relations reorganization under way. She also helped integrate the talents of Apple Fellow and evangelist extraordinaire Guy Kawasaki into developers activities. Somehow Apple needs to find a way to keep Stas and continue to use her acumen to support developers — who are Apple's lifeblood.



The good stuff

In case you have forgotten, or you are relatively new to the Mac, Roizen is an amazing person. She co-founded and ran T/Maker Co., one of the first Mac software developers (back when development was done in Object Pascal on a Lisa). T/Maker shipped its first Macintosh title in February 1984.

Roizen has served as the president and a board member of Software Publishers Association for a number of years. She is generally one of the smartest and most savvy people I've ever met, especially when it comes to product development, marketing and support.

In her new roll she will oversee evangelism, developer support, developer marketing, developer press, developer university and international developer relations within her department. This gives her a solid group, one well-positioned to bring stray Mac OS developers back into the fold, attract blue-chip talent away from competing platforms and entice brand-new programmers to launch their products on Macs first.

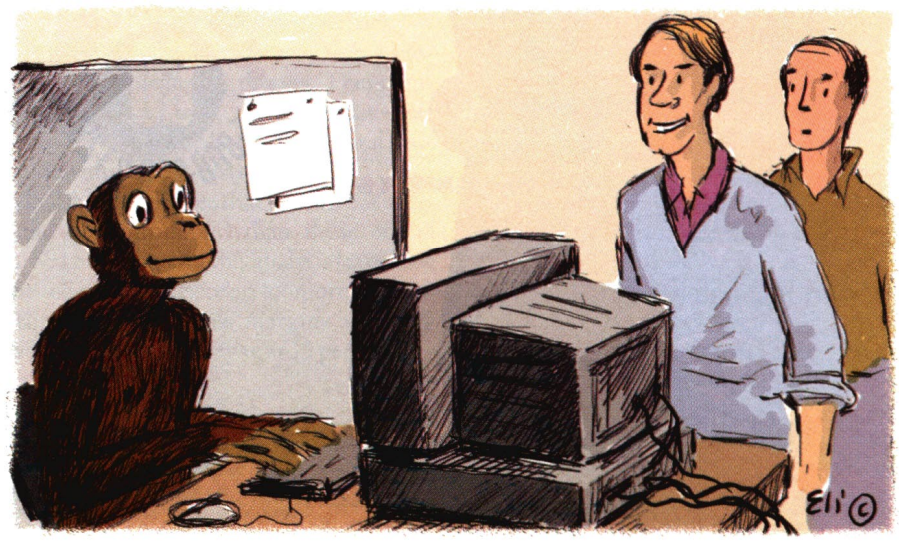
Reality checking 1996

But that does not mean she can move mountains. We can't expect her to (1) improve the ship date of Copland; (2) fix all the bugs in Open Transport; (3) create system updates out of thin air; (4) give developers free hardware, software and training; or (5) make up for all the lost development opportunities over the past five years. Instead, this is the time to support Apple and its new VP for Developer Relations. It's time for us to fine-tune our needs in these areas:

- Refine our definition of "better pricing" for the most critical Apple support.
- Gear our products to different markets and Mac OS models (note, I said Mac OS models — Roizen's group has to realize that it supports the Mac OS, not just the Macs sold by Apple).
- Combine Apple tools with third-party tools in new kinds of development synergy.

And this is just a start. As we move closer to the 1996 Apple Worldwide Developers Conference, let's focus on narrowly defining our own needs so we can present a straightforward set of messages to Roizen. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.



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OPENDOC POWER

Oracle Power Objects 2, going beta this month, will create OpenDoc containers and is Power Mac-native.

Sculpt 3D upgrade adds features, but still not Mac-like

By Sean Wagstaff

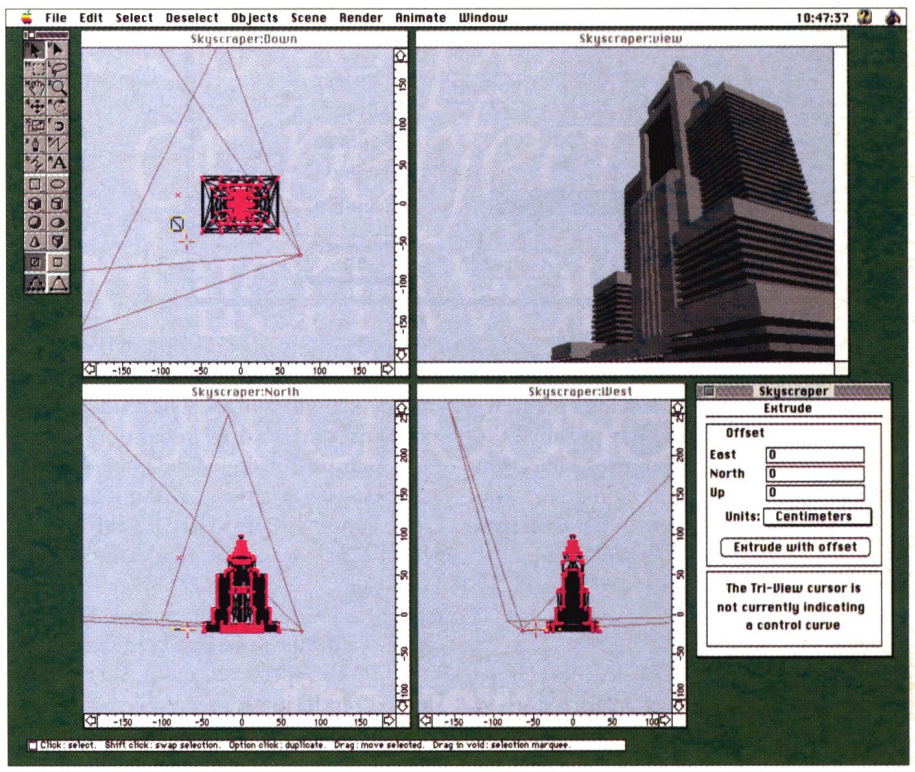
Modeling and rendering app has great ray tracer, minimal modeling features.

The latest release of Byte by Byte Corp.'s Sculpt 3D, Version 4.1, is intended to bring its modeling and rendering power within reach of more users. To this end, the company added good spline support to its previously polygon-only modeler; the new version also boasts one of the fastest, most realistic ray tracing engines anywhere, particularly on a Power Mac.

But while Version 4.1 is much better than previous editions, many users in its target audience — illustrators and others who need to produce realistic 3-D renderings — will still find the product frustrating and difficult to use.

Byte by Byte effectively replaced its stand-alone animation engine, Sculpt 4D, by offering rudimentary camera animation in Sculpt 3D. The company also dropped support for YARC Systems Corp.'s RISC accelerators as well as the annoying copy-protection dongle.

The $1,495 Sculpt 3D 4.1 competes in many ways with Strata Inc.'s $695 Vision 3d, Visual Information Development Inc.'s $1,995 Presenter Pro and autodessys Inc.'s $1,995 form•Z RenderZone.



Byte by Byte has cleaned up Sculpt 3D's interface, but features such as the Tri-View Cursor and Target and Observer (in the upper left window) are hard to see and use.

Sculpted models

To build a model, you begin by drawing Bezier splines or segmented lines in space and then lofting, revolving or extruding them into 3-D. You can also place 3-D primitives in space and then edit them to create detailed shapes. One of the best features of Sculpt is its very good control over individual vertexes and faces of 3-D models. You can move vertexes or groups of them in space to precisely control the shape of objects. You can even name selected groups of vertexes — great for performing a series of manipulations — as well as stitch and weld vertexes with much precision.

New to Version 4.1 is the Gravity tool, a variable-sized sphere of influence that can be used to push or pull on selected vertexes, affecting nearer vertexes more strongly than those farther away. While we found this tool difficult to master, it can perform unique puttylike manipulations of surfaces.

Rough interface

Previous editions of Sculpt had a difficult and nonintuitive interface. Although Version 4.1 is somewhat better, it's still very rough in this regard.

One gripe is the dependence on tiny floating registration points to define positions in space and active objects. These points are small and dim and easily lost on screen. They're also not intuitive to use and are easily confused with the tiny camera and target registration points.

Except for editing object vertexes, manipulations in Sculpt aren't very interactive, either. Most actions are performed numerically through dialog boxes. This is in sharp contrast to Visual Information Development's Modeler Pro, which gives outstanding visual feedback during modeling operations, or to autodessys' form•Z, which lets you preview most numerically controlled modeling operations.

Additionally, Sculpt 3D has only one level of Undo, which makes mistakes in multistep modeling operations costly. The program even uses the creaky Font/DA Mover-style dialog box for applying textures to objects.

See Sculpt, next page

score card

Sculpt 3D 4.1

Byte by Byte Corp.
List price: $1,495*
Overall value ◆◆

Sculpt 3D 4.1 is a 3-D modeler and renderer with a set of potentially powerful features hampered by a very difficult interface. While the new version has improved the situation, Byte by Byte still has a long way to go to bring the program within reach of the average user. On the other hand, its ray tracing is excellent and the fastest we've tested. Users who need this kind of rendering performance who are able to import their models in DXF format will find Sculpt 3D worth the money, as will modelers who need a fine level of control over vertexes. The average illustrator, however, will do better elsewhere.

Performance ◆◆◆◆
Features ◆◆
Ease of use ◆◆
Documentation/support ◆◆◆

**Upgrades from Version 4.0, $49. Competitive upgrades, $995.*

Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

Power Objects delivers on Oracle7 OOP dreams

From Page 1

answer to their prayers. Offering a well-designed object-oriented development paradigm, managed via a (mostly) drag-and-drop interface, OPO succeeds in making Oracle database creation, administration and design much easier than it has ever been before.

The feature that will have developers capering about the office is the inclusion of a stand-alone local database, called Blaze, for SQL development.

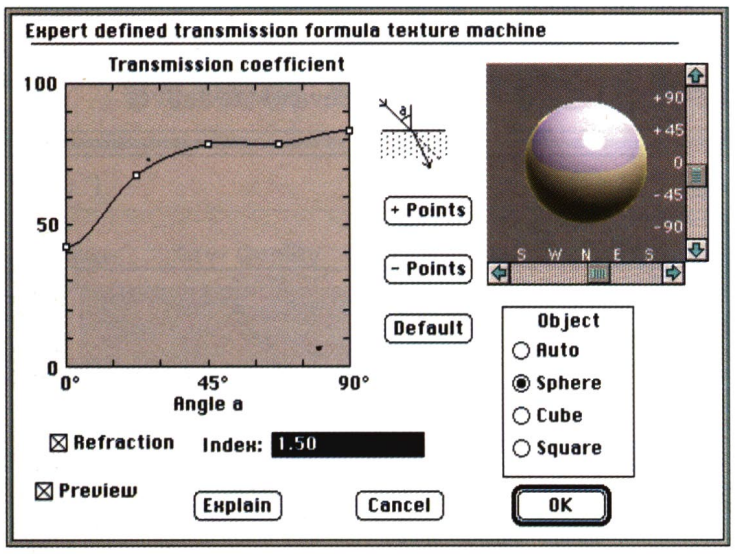
For the first time, an Oracle database developer is freed from a connection to a remote Oracle database; all development can take place locally on the programmer's computer. We applaud Oracle for releasing developers from this expensive constraint.

Furthermore, any Blaze database can be migrated to an Oracle server by option-dragging the tables and views from one window to another within OPO. Having written volumes of SQL to create and modify tables, we see this as the most refreshing enhancement that Oracle offers with OPO, saving hours of back-end creation time spent debugging and testing scripts.

Look and feel

OPO's user interface breaks little new ground; in some areas, such as in the OPO Designer application's Main window, the program has a Windows look and feel. Also disconcerting is Oracle's choice of Finder

See Power Objects, next page



Sculpt 3D 4.1 has a very deep level of control for defining an object's surface properties. As is typical of the program, however, these controls are daunting to novices.

Sculpt

From previous page

Sculpt 3D offers quick-shaded previews in the Camera window, but to move the camera to change the point of view, you have to click and drag the Observer and Target markers separately. The scroll bars in the Camera window let you rotate your point of view with only limited control.

What's in a name?

In general, Sculpt 3D's features have names that reflect their relationship to Byte by Byte's programmers more than to users. For example, texture-mapping and file-export features are called Machines, as if they were unrelated hunks of code performing solitary tasks. This reflects the fact that features in Sculpt aren't well-integrated, and their arrangement in toolboxes and menus seems poorly conceived.

Texture-mapping Machines are a prime example of the interface complexity in Sculpt 3D — from which the user is not adequately shielded. For example, in the Matte Reflectance dialog box, a Formula button opens a window with three editable curves that constrain reflectance variables. Users will have to educate themselves in surface normals as they relate to angles of illumination and angles of view to make sense of these curves. We applaud Byte by Byte for offering a high degree of control, but artists should be spared any feature labeled or resembling Formulas.

The animation feature in Sculpt is not particularly impressive. You can animate your camera along a path for fly-bys or animate both target and camera for fly-throughs. This feature is useful only to those needing to do walk-throughs of a scene, since objects can't be animated.

Animations are saved as numbered PICTs, which can then be compiled into a QuickTime movie.

Speedy performance

While Sculpt 3D's interface is confusing, its performance is very good, particularly on a Power Mac 9500/132. Once you've mastered the process, even complex modeling operations are fast, particularly compared with Vision 3d's. Boolean operations, which perform surface trims rather than true solids algebra, are accurate and fast, in marked contrast to Vision 3d.

Sculpt 3D's best feature is its very accurate and fast ray tracer. You can layer multiple textures on surfaces and apply any number of light sources. The rendering has excellent control over refraction, reflections, bumps and glows, and matte surfaces are as realistic as possible without radiosity. Only Vision 3d and Alias Research Inc.'s Sketch! can compete in rendering quality, but Vision 3d is only $695. (Sketch! has become a lame-duck product since Alias' acquisition by Silicon Graphics Inc.)

While the speed of Sculpt 3D's quick-shaded rendering is acceptable for simple models, the program lacks support for Apple's QuickDraw 3D, so hardware acceleration is not an option. The program also lacks support for 3DMF (3-D metafile format), which is particularly unfortunate since more users are apt to buy Sculpt for its ray tracing than for its modeling. Sculpt imports and exports standard 3-D DXF (Drawing Interchange File) formats.

Sculpt 3D's documentation goes further than most manuals in trying to educate users on the theoretical intricacies of 3-D. However, if you just want to use the program, you'll have to read the manual thoroughly and repeatedly. Byte by Byte definitely needs to come through with more and better tutorials.

Conclusions

While Sculpt 3D 4.1's interface will be impenetrable to some users, it does offer a number of features that make it a compelling choice in some environments. Its vertex-level modeling control is very good, and features such as polygon reduction make it a useful part of an animator's toolbox. Its ray tracing is excellent.

Architects and engineers with CAD projects that need a good ray-trace rendering engine will find Sculpt 3D a useful add-on to their existing modeling software. And high-end users will find Sculpt 3D's detailed controls valuable in tricky situations.

However, no company needs to take to heart Apple's 3-D interface guidelines more than Byte by Byte — the company has failed to protect users from the intricacies of its software. In light of strong competition, Sculpt 3D is only a fair value.

Byte by Byte Corp. of Austin, Texas, can be reached at (512) 305-0360; fax (512) 305-0371; bytebybyte@aol.com; http://bytebybyte.com. □

Power Objects

From previous page

icons: A release product should not use generic icons for database files. Despite this, OPO's overall user interface is acceptable.

The object types, their icons and their hierarchy are clearly designed and easy to learn. OPO's Main window contains three object types: Sessions, Applications and Libraries. Sessions are connections to database back-end objects, such as tables, indexes and views, while Applications contain the front-end objects, such as forms, reports and classes. Libraries may contain only bit-mapped images and classes, thereby allowing a single library to provide graphic and programmatic consistency across multiple applications.

All OPO objects have properties, which control their appearance and behavior, and methods, which determine how they respond to events. Methods are written in a Microsoft Visual Basic work-alike called Oracle Basic.

The forms designer has a serviceable selection of controls, such as fields, buttons and check boxes, despite the Windows look and feel. Support for embedded forms, classes and graphics primitives is good, and the omission of support for OLE from the Mac version is forgivable. Default methods for data validation are built-in and easily associated to controls.

Report creation uses the same forms designer, with its concomitant functionality, although OPO doesn't win any awards for enhancements in report generation.

The O in Object

By developing custom classes, an OPO developer can take the greatest advantage of the "Object" part of Oracle Power Objects. You can create a master class and use instances of that class throughout multiple applications. Subclasses inherit all the properties, controls and methods of the master class. Creating classes and subclassing them gives more control and modularity, and we hope Oracle takes advantage of these opportunities to extend OPO-developed front ends with custom classes.

We also hope that Oracle takes some time to learn more about object-oriented programming; if you are a long-time coder, you will notice that Oracle uses the terms "object" and "class" interchangeably, inserting a bit of cognitive dissonance into the product.

> By developing custom classes, an OPO developer can take the greatest advantage of the "Object" part of Oracle Power Objects.

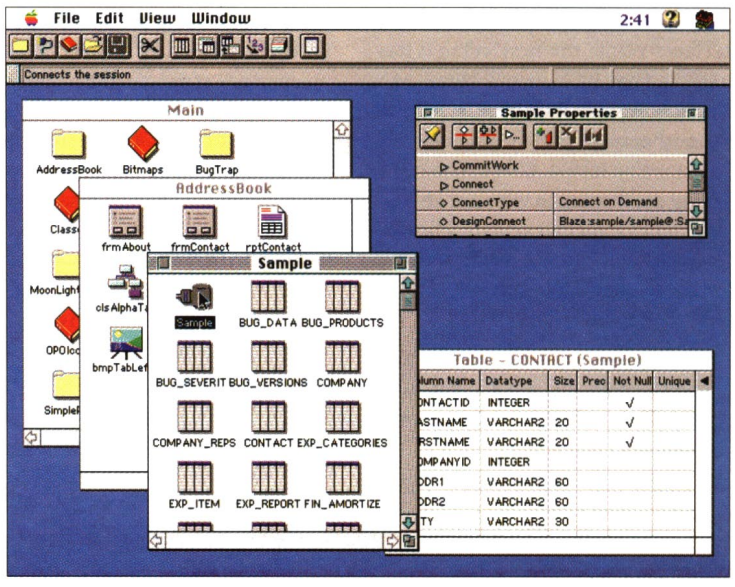
We were surprised to find that bit maps — as in Windows .BMP files — are the only graphics supported in OPO. Even though importing other formats via the Mac Clipboard is easy, the lack of support for the most common Mac graphics file formats is surprising in a program that has the blessing of Apple itself. Even more surprising is the plethora of Windows icons — and the omission of Mac icons — in the included library. We endorse standardizing database front-end interfaces, but must they look like Windows 3.1?

Oracle Basic and SQL

While Visual Basic is familiar territory to the legions of Windows coders, the absence of Visual Basic for the Mac makes familiarity with Oracle Basic unlikely for most Mac users. Luckily, Oracle Basic is well-documented and, despite its procedural nature, is a good fit in the cross-platform work for which OPO is meant. Overloading methods (defining two methods with the same name but different numbers of arguments) is supported. The Debugger, although simple, supports watchpoints as well as breakpoints. But the code editor is rather anemic, lacking such necessities as syntax checking and search-and-replace.

OPO's SQL support is generally very good, implementing the SQL92 version of the standard. Considering that all database access is accomplished behind the scenes by SQL, slip-ups in SQL implementation can

See Power Objects, Page 34



An open database session shows all of the available tables and the description of the Contact table. You can drag tables from one session to another, including one running on a remote computer.

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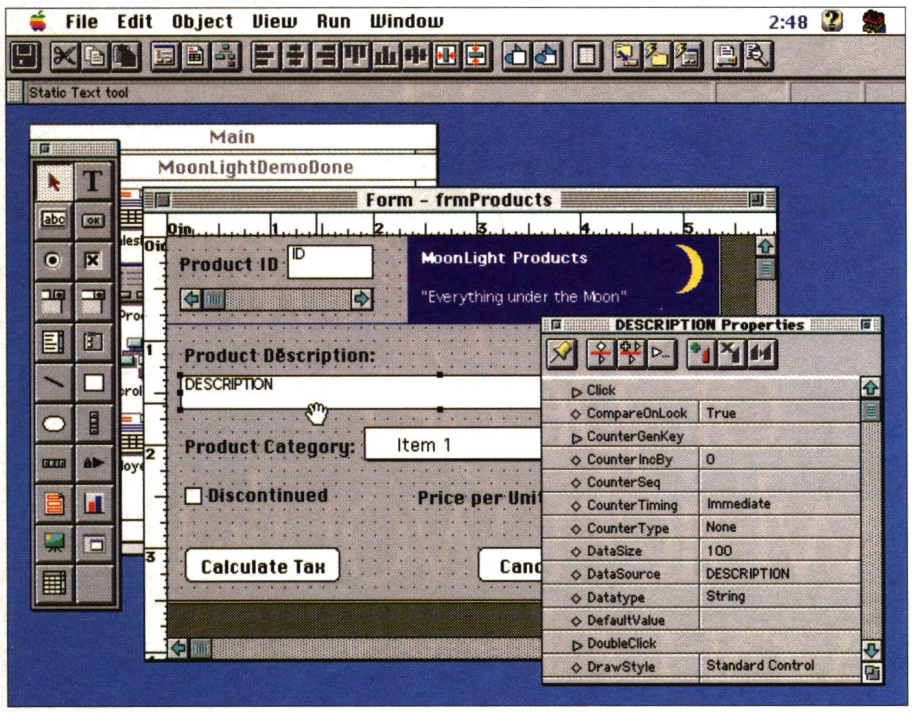

You use the Designer to create and edit forms, reports and graphics elements in Oracle Power Objects. The default methods for data validation are built-in and easily associated to controls.

Power Objects

From Page 32

be severe. Explicitly using SQL revealed no errors under light testing. We did not test any Oracle procedural SQL blocks (PL/SQL) against an Oracle7 server, and we were unable to see how Transact-SQL statements for SQL Server databases work because of the lack of drivers for the Mac. We also found that certain SQL commands didn't work with Blaze databases. If you're planning to migrate to Oracle7 Server, it may be wiser (though more expensive) to develop on a Personal Oracle7 Server than a Blaze database.

Curious to see how OPO would scale to an Oracle7 database, we installed a demo of a Windows NT Oracle server from the Oracle demo CD and attempted to connect to it. We were quite surprised to find that our stand-alone version easily attached to the server and, after minor tweaking and manual reading, we easily moved our database to the NT box. When Oracle releases drivers for other databases and Open Database Connectivity (ODBC) as it has for Windows, this ease of connection will aid developers in testing database back-end combinations. Oracle wins, the developer wins, and the final user wins.

Unlimited redistribution licenses for runtime versions of your OPO applications are available, but you must purchase one client-server package per target application. That's steep for small groups.

Performance

We reviewed the stand-alone 680x0 version of Power Objects on a Power Mac 8100/80 using System 7.5.1. (The Power Mac version, due this quarter, was not available in time for this review.) Overall performance of the application was slightly sluggish, and Blaze databases were not blazingly fast. However, for a development tool, we found the performance acceptable; in fact, having a local development database increased our actual productivity.

Requiring at least 8 Mbytes of RAM and 10 Mbytes of hard disk space, OPO's demands are not unreasonable for this genre of product. However, OPO's installer requires 16 Mbytes of actual physical RAM (no virtual memory or RAM-doubling allowed) or installation is impossible. The 8-Mbyte RAM requirement is sadly misleading, and we recommend that Oracle either repair this installer oddity or inform users of it.

Compounding this oversight, Oracle hypes OPO applications as able to "scale seamlessly to any database." Oracle marketing must have been talking about the Windows side of the street. While advertising connectivity to Personal Oracle7, Sybase SQL Server and Microsoft SQL Server, OPO could disappoint purchasers who find that the Mac client-server version supports only Oracle7 databases. We warn purchasers to check with Oracle's Web page or its sales representatives for information on when the drivers to Sybase SQL Server and Microsoft SQL Server will be released.

Also annoying were a few interface oddities. If you Cut a form when deleting it from an Application window, the action is irreversible. No Undo is allowed, although cutting or copying and pasting a form works as expected. We suppose no one at Oracle has ever used the Clear command from the Edit menu.

Documentation and support

OPO includes three well-written manuals in hard copy and Adobe Acrobat files. We found both forms of documentation lucid but advise caution in learning database programming principals from the user guide. Although the documentation was clear when explaining how to use OPO, we found its treatment of some basics casual and cavalier. When the user guide advises you to look to other sources for information on important topics such as database normalization, do it. However, we do compliment the documentation team for including a list of installed files. In a product of such complexity, we appreciate this oft-overlooked information.

On-line help via the EHelp engine was useful, if often difficult to read because of poor layout and design. In fact, having to check the read-me file, Acrobat documentation and EHelp made the on-line experience a little less than satisfying. Apple Guide would have been a better choice.

Technical support over Oracle's toll-free line was excellent with fast response and minimal insulation from technical experts. Our questions were promptly answered and omissions in the product were quickly admitted to. Having dealt with Oracle support for several years, we found this a refreshing change.

Conclusions

Life is tough in the database market, and Oracle has major competitors for its entire spectrum of products, notably Sybase Inc.'s PowerBuilder environment, recently released for the Mac, and Jyacc Inc's Jam 7. With the release of OPO, Oracle shows a commitment to the Mac as a database-development platform.

Oracle Power Objects may disappoint the average Mac database developer who doesn't need to do large-scale SQL development, but for those of us who need to work with Oracle (and eventually other) relational database management systems, OPO gives us the tools we have been waiting for since 1987. We look forward to required improvements in this product, such as the promised connectivity options in the client-server version and Power Mac-native code, but we heartily recommend that SQL database programmers examine what Oracle Power Objects could do for their creative efforts.

Oracle Corp. of Redwood Shores, Calif., can be reached at (415) 506-7000 or (800) 672-2531; fax (415) 506-7200; http://www.oracle.com/. □

score card

Oracle Power Objects 1.0

Oracle Corp.
Overall value ♦♦♦ **List price: $395***

Oracle Power Objects offers a well-balanced database development environment for SQL databases. Seamlessly supporting Windows, Macintosh and OS/2 front ends, the application currently allows development only on a local single-user database or, for the client-server version, Oracle7 databases. Driver support for Microsoft's or Sybase's SQL Server products, although shipping in the client-server version under Windows, is still in beta for the Mac. Having slightly sluggish performance, a sneaky runtime-license fee, and a Windows 3.1 look and feel, the product is not for the average Mac database developer. But for the Oracle7 developer who wishes to use a Mac as the primary development machine, OPO is a good companion.

Performance ♦♦ **Ease of use** ♦♦♦
Features ♦♦♦♦ **Documentation/support** ♦♦♦♦

**Stand-alone version; introductory offer through March 31, $99. Client-server version, $1,995.*

reviews FORUM

Authoring app review

Your review of scriptless multimedia authoring applications provided a good overall comparison of Interactive Media Corp.'s Special Delivery 2.1 and Pierian Spring Software's Digital Chisel 2.0 (see 12.11.95, Page 58). However, descriptions of several important aspects of Special Delivery were inaccurate.

Your reviewer described portals merely as frames that hold media elements in the layout view. In reality, portals are powerful software objects that simultaneously contain media objects and act as buttons for triggering multimedia events and placement of multimedia objects on the screen. The graphical placement of portals and actions are the key to creating powerful interaction without programming. In addition, buttons are incorrectly described as having four possible actions — the reality is that there are four classes of buttons, comprising more than 52 unique actions.

Your review was confusing in its description of Scrapbook import. Special Delivery will import Microsoft PowerPoint and Adobe Persuasion presentations when they are exported from these applications as Scrapbooks under System 7 and System 7.5. We make no claim to import the system Scrapbook itself.

Two significant differences between the products reviewed were not adequately described, namely that Special Delivery supports 24-bit color, and it will run in 1.5 Mbytes of RAM, even as projects get large and complex. This efficient memory usage is a result of the fact that Special Delivery does not imbed any media objects but instead uses pointers to the objects and keeps the object files open only when required.

Peter N. Rosenthal
Vice president, marketing
Interactive Media Corp.
Los Altos, Calif.

Send your comments to MacWEEK Reviews Department, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; fax (415) 243-3602; reviews@macweek.com. Include your name, address and phone number. We reserve the right to edit for clarity and length.

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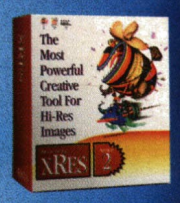

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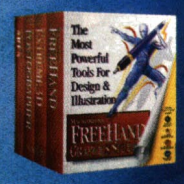

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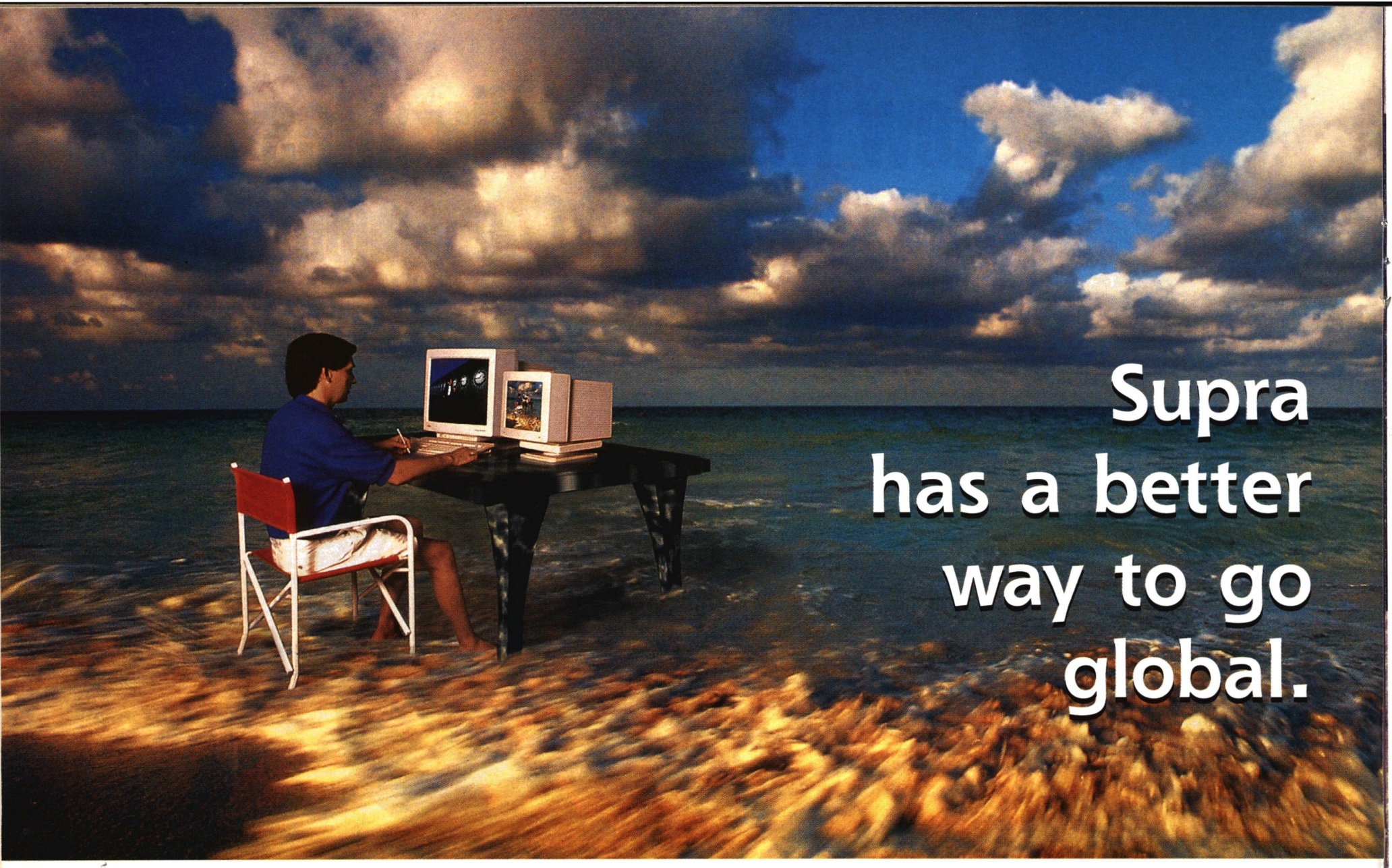

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Serial port enhancer software	■	■	■
CompuServe® Information Manager	■	■	■
Caller ID	■		
5-Year limited warranty	■	■	■
Durable aluminum case	■		
Flash ROM	■		■
Alpha-numeric display	■		
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One-step access to FAX menu	■	■	
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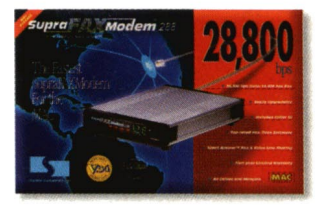

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PROLIFIC PAGES

There are now at least 8 million individual pages on the AltaVista search engine, most of them written in HTML.

HTML EDITORS

Web page-creation tools simplify Internet publishing

But as HTML evolves, users will need continual upgrades for their editors.

By Jeff Ubois

A new generation of page-creation tools is doing for the Web what desktop publishing software did for paper in the 1980s. Users say building a Web site without HTML editors is like producing a newsletter with a typewriter.

"Most of the tools are good starting points, but none are good ending points for Web sites," said Dave Taylor, author of "Creating Cool Web Pages with HTML" and president of Intuitive Systems, a Redwood City, Calif.-based Web site-design company perhaps best known for the Internet Mall (see chart, next page, for Web site addresses).

"These tools are really good for getting up and rolling, but if you actually look at the most popular and successful sites, almost all of them have been done by hand, or at least fine-tuned by hand," Taylor said.

Page-creation tools are a cross between a text editor and a desktop publishing or page-layout program. All of them make it easy to enter text and to add HTML code tags without having to memorize their exact syntaxes.

The best provide WYSIWYG viewing, often by firing up a designated browser, such as Netscape Navigator. They also offer templates and other features, such as code and link checking, to help manage multiple pages or whole sites.

In effect, page-creation tools shield users from the arcana of HTML, allowing novices to create Web pages quickly and help even advanced users produce pages with a more unified look and fewer errors.

While many of the first page-creation tools — as well as some of the best ones still available — were freeware or shareware, there are also a number of commercial products, such as PageMill from Adobe Systems Inc. of Mountain View, Calif.; NaviPress from NaviSoft Inc. of Vienna, Va.; and HoTMetaL Pro from SoftQuad International of Toronto, that have made it into traditional software distribution channels. Netscape Communications Corp. of Mountain View has yet to ship its Web page-creation products for the Macintosh, which will be included in Netscape Navigator Gold.

Whether for text, programming code or HTML, users tend to be fairly partisan about their editing tools. One product that has gained a large following on the Web is BBEdit from Bare Bones Software Inc. of Bedford, Mass., which comes in a Lite, freeware version and a professional, commercial version. At least two sets of utilities for BBEdit are widely available, and though it is a text editor rather than a WYSIWYG tool, users like the control it offers.

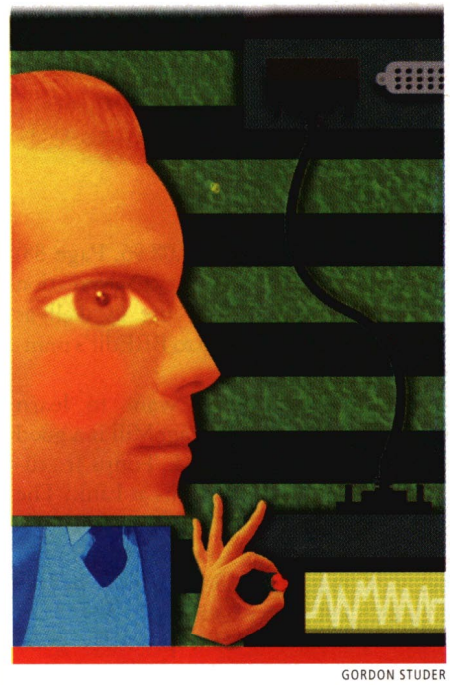
"I prefer BBEdit because I understand HTML and SGML [Standard Generalized Markup Language], and it gives me direct control over the HTML code," said Grant Neufeld, an applications programmer at InfoDesign Corp. in Ottawa. "I also use the BBEdit validation tool and a separate link checker." Neufeld particularly recommends the BBEdit HTML Tools by Lindsay Davies.

"Even the most experienced HTML writers should run their code through a validator and checker," Neufeld said.

For most users, managing a Web site means managing multiple files. Ensuring that links don't break if the directory structure changes or if a file is renamed, and the ability to make changes across an entire Web site — redoing a background logo, for example — require site-management capabilities, not just page creation.

"Page management is an important feature," Neufeld said. "For instance, I include headers, titles, backgrounds and footers on about 200 FAQ [frequently asked questions] pages, and I can update

See Solutions, next page



GORDON STUDER

MACINTOUCH

RIC FORD

Searching for serial SCSI and Mac OS updates

A more reliable SCSI architecture is something that is long overdue on the Macintosh. The Mac's original SCSI bus was an amazingly good architecture for its time and for years after its introduction on the Mac Plus, but its electrical sensitivities, limitations and voodoo are getting stale. Upcoming serial designs promise robust performance that far surpasses today's parallel SCSI.

Additional software issues add to the existing complexity. Things got more complicated after Apple released SCSI Manager 4.3 in the Quadra AV models, requiring new formatting software. Apple later tweaked this code with various patches and ROM fixes, failing to clearly identify the changes and versions. Over the years, the company also hacked on bugs in the file system, and some of these changes also involved changes in third-party formatters (see 08.23.93, Page 62). Meanwhile, the IDE (Integrated Drive Electronics) drives in certain new Macs are supported only by a limited subset of Mac formatters and utilities.

In the face of all these issues, there are a few proven survival tactics. The most important one should be obvious: robust

See MacInTouch, next page

JEAN TUTTLE

SOLUTIONS

From previous page

them all by changing a single file using Davies' utilities.,

"If you have a site with three URLs, you can watch it yourself, but if you have a lot of pages, it's nice to do a batch job," Neufeld said. "With BBEdit you can write scripts that do this; for example, I'm working on a script that will automatically check over 1,000 URLs on my site every couple of weeks."

Rapid development

Adobe's PageMill (see 01.08.96, Page 88) offers a different approach to page creation that emphasizes ease of use as well as WYSIWYG, as opposed to BBEdit's manual control.

"If someone doesn't want to learn HTML programming, PageMill is a good way to go," said Robert M. Toups Jr., director of Internet operations at Link, The College Magazine in New York. "It's not sufficient for the advanced programmer, but it at least does what it says, which is create decent Web pages."

For Toups, PageMill produces good pages very quickly. "We're producing Digital Campus magazine, which has 265 pages, completely with PageMill and SiteMill, and we can do it in one-half to one-third the time it would take to do by hand," Toups said.

PageMill is also suitable for relatively unskilled workers. "We have interns here, and if I want them to design a page, they can, without knowing a lot about the Web," Toups said.

For really fine work on his personal pages, Toups uses PageMill for a rough cut and then finishes with BBEdit. "With PageMill you can drag and drop; arrange objects to see what looks right; and then go in with BBEdit and add bells and whistles, tables, font sizes, and colors, and so on," he said.

"BBEdit Lite is the program I've used for my best Web pages, but it requires knowing HTML like you know the English language," Toups said.

There are other problems with relying entirely on page-creation tools. Just as magazine designers tend to avoid basing their work on the templates provided with QuarkXPress or Adobe PageMaker, Web designers need to do more than simply use the templates provided by others. "Easy-to-use desktop publishing tools were the kiss of death to quality desktop publishing, and so page-design and HTML editing tools are becoming the kiss of death for quality Web pages," Intuitive Systems' Taylor said.

For example, HTML editors make it easy to include graphics, but because access is via local hard disk (rather than over the Internet), the pages appear deceptively fast to an author, while users on dial-up links may have to wait minutes to download the same page.

"A rule of thumb is that 1 [Kbyte] equals one second to download," Taylor said. "It would be very nice if page design programs would give a statistics box that says how long it takes to download at 28.8, or how long at 9.6 [Kbps]."

Web site addresses

- **Intuitive Systems: http://www.intuitive.com**
- **Internet Mall: http://www.internet-mall.com**
- **BBEdit HTML Tools by Lindsay Davies: http://www.york.ac.uk/~ld11/BBEditTools.html**
- **Digital Campus in New York: http://www.linkmag.com**
- **Robert M. Toups: http://www.echonyc.com/~robtoups**
- **John Weiderspan: http://www.comvista.com**
- **AltaVista search engine: http://www.altavista.digital.com**

Waiting for Gold

The best source for page-creation tools and utilities is the Internet itself. Along with freeware versions of commercial products, there are low-cost editors such as Hypermarker from Software Perspectives of Lake Ridge, Va., and World Wide Web Weaver from Best Enterprises of Potsdam, N.Y., as well as freeware and shareware editors such as Webtor, HTML Editor, HTML Pro, Arachnid and Site Writer Pro.

> "If someone doesn't want to learn HTML programming, PageMill is a good way to go."
> — *Robert M. Toups Jr.*

These products, along with a few other editors and numerous conversion utilities, are referenced on John Wiederspan's pages, or can be found using the AltaVista search engine (see chart, left).

With new versions and extensions of HTML arriving every few months, HTML editors will be forced to evolve rapidly. Internet-based distribution of HTML editors is likely to remain the norm.

"People are going to have to upgrade and change editors as the HTML standard changes," Neufeld said.

At the same time, vendors of popular applications packages are adding Web-publishing capabilities to their existing products. Just as word processors, spreadsheets, databases and page-layout programs can now output text, vendors are building in HTML output.

Some vendors, such as Microsoft Corp. and Novell Inc., have added HTML capabilities to their word processors, while Adobe has developed a plug-in for PageMaker, and Lotus Development Corp.'s Notes has been adapted for the Web. Also widely available now are utilities that convert text, RTF and PostScript to HTML; tools for creating HTML pages from Eudora, Microsoft Excel, Adobe FrameMaker, PageMaker, Adobe Illustrator and XPress files; and page-creation tools for other formats, such as Adobe Acrobat's Portable Document Format.

Meanwhile, some users believe that most of the current crop of editors will wither and die when Navigator Gold finally ships.

"If Navigator does nifty drag-and-drop and supports Netscape extensions, it will clobber everyone else except perhaps PageMill," said Joe Ashear, an after-hours Web-page enthusiast in New York.

But others are more skeptical. "Netscape has a really arrogant position — they didn't even show up for the Web Developers conference," Taylor said. "If they won't include extensions from anyone else, they are going to have problems.

"It's easiest to use the subset of HTML that works for everyone and the extensions that don't break anything," Taylor said. "I'd love to use frames, but it's unlikely I ever will unless they are supported by more Web browsers."

Clearly, HTML isn't hard to understand or to learn, and a little manual coding using SimpleText or a word processor is often the quickest way to write a simple page or fix a minor problem. But for most users, hand coding every HTML page is like writing an entire application in assembly language: The end result is a little better, but it's a lot harder. □

MACINTOUCH

From previous page

backup. The critical issues in backup are: No. 1, periodically testing the *restore* process to make sure backup is truly working and, No. 2, being careful not to corrupt your backup files while trying to recover a system with SCSI problems.

Cables and configuration

Another issue is also well-known, but still bears repeating: SCSI cabling and termination are critical. Note that problems can occur when a single SCSI cable is too short, as well as when there is too much length in the chain. (Solving this little mystery personally involved sporadic tests and debugging over a year's time.)

Matched, high-quality cables are essential, and active terminators can help quite a bit. Modern Macs use active termination internally, and active external terminators have become more common and less expensive. Some people suggest putting trickier devices, such as scanners, tape drives or CD-ROM drives, at the end of the bus with the terminator. In Macs with dual SCSI buses, such as PCI-based models, it makes sense to put the most important data on the internal drive, whose bus should be more stable and reliable (as well as faster) than the external bus.

On the software side, some formatters, such as FWB Inc.'s Hard Disk ToolKit, offer control over parameters that can make all the difference between reliable operation and disaster. One reader, for example, had a crashing nightmare with a magneto-optical drive attached to a Power Mac 7100. None of the vendors involved could solve the problem. He finally turned off "Allow Disconnect," a driver option in Hard Disk ToolKit 1.8s, and the problem disappeared. Disabling "blind transfers" could be critical with accelerated Macs, and it can help in other cases, too.

> **Microsoft probably knows more about the update than Apple's customers.**

Certain formatters may work better with your devices than others, and it is important to keep formatters up-to-date to cover the latest hardware and software changes.

Planning pieces

As I write this, Apple is still keeping details of System 7.5 Update 2.0 a secret. Perhaps by the time you read it, we will have real dates, specifications and prices on this major update. Or we still may be trying to plan our activities around rumors and scraps of information.

Customers calling Apple's Order Center are getting two different stories. Some can order the update for desktop Macintosh systems with delivery promised about the time this column hits print. Others are told that only a PowerBook update is available, and that it is not System 7.5 Update 2.0. The story keeps changing.

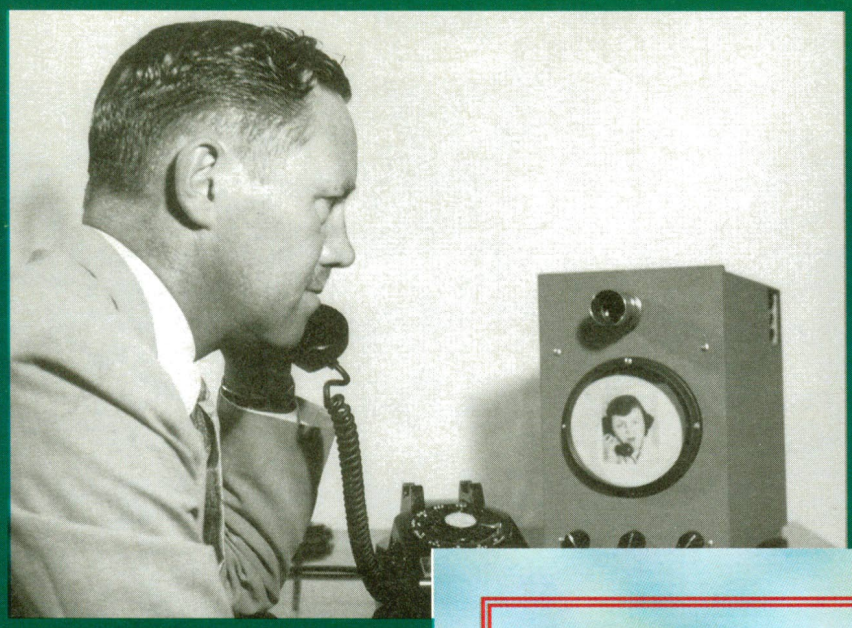
Once it finally arrives in some form, the update promises to consolidate piles of patches for Mac OS bugs and bring the option of Open Transport's new architecture to the full Mac family.

A critical question is how many different Mac OS versions we will need to support the complete range of Mac models following the update.

It makes sense to wait a few weeks for eager pioneers to shake out the software after its release, but the update should go on a fast track for testing and installation, given all its improvements in performance, reliability and organization.

Open Transport should be optional for non-PCI models. One of its big advantages is the ability to dynamically change network configurations without restarting the Mac. A smattering of positive reports about the update from testers, especially about late beta versions of Open Transport 1.1, is encouraging. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at http://www.macintouch.com/~ricford/.



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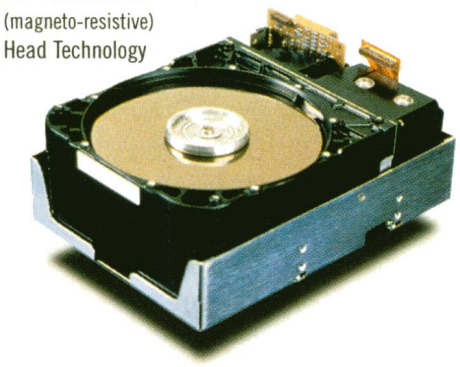

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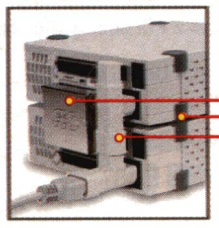

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Model	Capacity/Features	Awards	Internal	SR2000
APS Q 840 Quantum 840 Trailblazer	811MB 4500 rpm	MacUser ZD LABS ★★★★	$199.95	$299.95
APS I 1080 IBM DPES 31080	1034MB 5400 rpm		239.95	339.95
APS Q 1080 Quantum 1080 Fireball	1042MB 5400 rpm	MacWEEK ◆◆◆◆◆ MacUser ZD LABS ★★★★	269.95	349.95
APS Q 1280 Quantum Fireball II 1280	1222MB 5400 rpm		299.95	Best Value From APS 399.95
APS I 2160 IBM Ultrastar ES	2063MB 5400 rpm		499.95	Best Value From APS 599.95
APS Q 2210 Quantum Capella VP32210	2103MB 5400 rpm	MacUser ZD LABS ★★★½	629.95	699.95
APS ST 4200 Seagate ST 15230N Hawk	4094MB 5400 rpm	MacUser ZD LABS ★★★★	899.95 NEW LOWER PRICE	999.95

APS HIGH-PERFORMANCE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0 Micropolis 4221	1955MB 7200 rpm	MacUser ZD LABS ★★★½	$599.95 NEW LOWER PRICE	$699.95
APS Q 2.0 Quantum Atlas XP32150	2050MB 7200 rpm	MacUser ZD LABS ★★★★	799.95	899.95
APS ST 2.0 Seagate ST 32550N Barracuda	2047MB 7200 rpm		799.95	899.95
APS MS 2.0AV Micropolis 4221AV	1955MB 7200 rpm		699.95 NEW LOWER PRICE	799.95
APS MS 4.0 Micropolis 3243	4064MB 7200 rpm	MacUser ZD LABS ★★★★	999.95 NEW LOWER PRICE	1099.95
APS MS 4.0AV Micropolis 3243AV	4064MB 7200 rpm		1099.95 NEW LOWER PRICE	1199.95
APS Q 4.0 Quantum Atlas XP34300	4101MB 7200 rpm	MacWEEK ◆◆◆◆◆ MacUser ZD LABS ★★★★½	1199.95	1299.95
APS ST 4.0 Seagate ST 15150N	4094MB 7200 rpm	MacUser ZD LABS ★★★½	1199.95 NEW LOWER PRICE	1299.95
APS MS 9.0 Micropolis 1991	8669MB 5400 rpm		1999.95 NEW LOWER PRICE	2199.95
APS ST 9.0 Seagate ST410800N	8669MB 5400 rpm		2199.95	2399.95
APS MS9.0AV Micropolis 1991AV	8669MB 5400 rpm	MacUser ZD LABS ★★★★	2099.95 NEW LOWER PRICE	2299.95

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Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0W Micropolis 4221W	1955MB 7200 rpm		$699.95 NEW LOWER PRICE	$799.95
APS Q 2.0W Quantum Atlas XP32150W	2050MB 7200 rpm		899.95	999.95
APS MS 4.0W Micropolis 3243W	4064MB 7200 rpm		1099.95 NEW LOWER PRICE	1199.95
APS Q 4.0W Quantum Atlas XP34300W	4101MB 7200 rpm		1299.95	1399.95

APS SCSI POWERBOOK DRIVES

Model	Capacity/Features	Awards	Internal
APS 514 Quantum Daytona	491MB 4500 rpm		$199.95
APS I 8010 IBM Travelstar XP	810MB 4900 rpm		499.95

APS IDE POWERBOOK DRIVES

Model	Capacity/Features	Awards	Internal
APS 170 PB Avatar mechanism	170MB per cartridge Each cartridge only $49.95		$399.95
APS Q 810 Quantum Europa	778MB 3800 rpm, Fast ATA-2		399.95
APS Q 1.08 Quantum Europa	1037MB 3800 rpm, Fast ATA-2		499.95
APS I 1.2 IBM Travelstar XP	1215MB* 4900 rpm, Fast ATA-2 (IDE)		699.95

Manufacturer's specifications.

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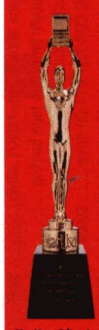

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APS DLT40 Digital Linear Tape Mechanism	40GB		N/A	5999.95
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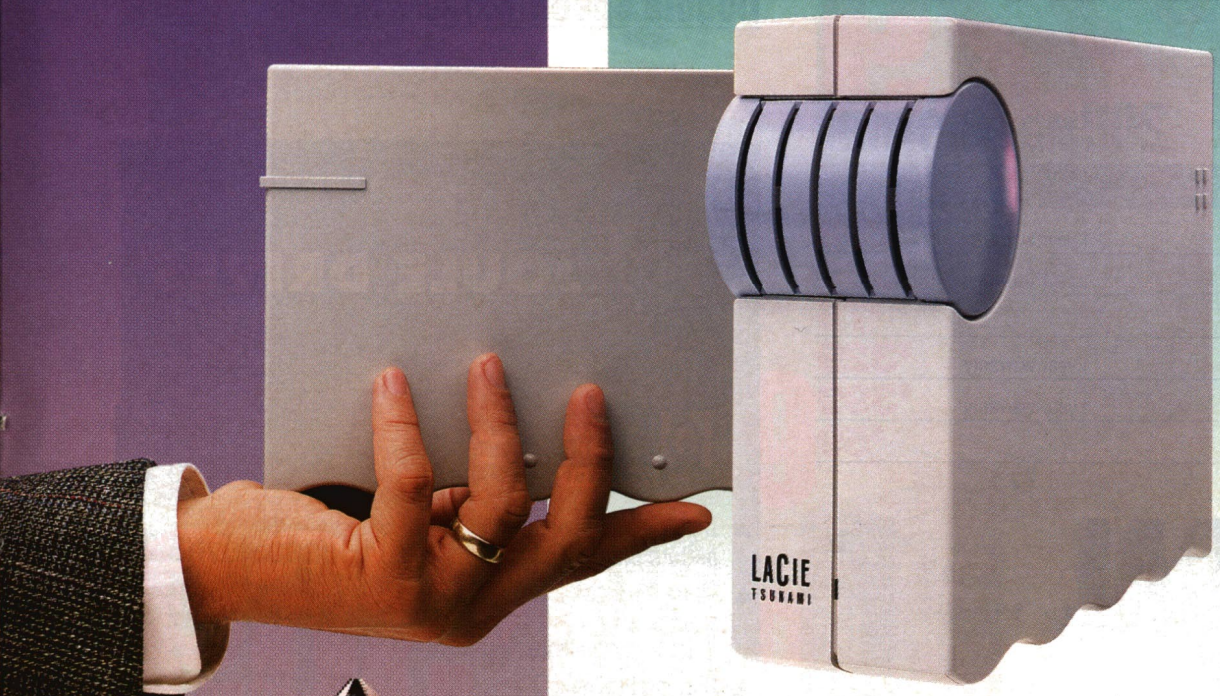

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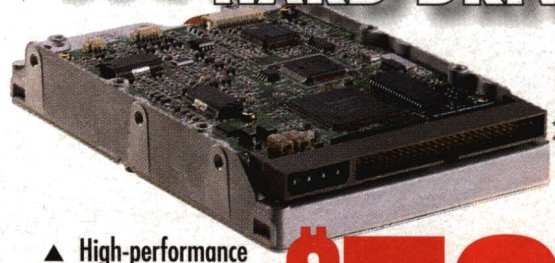

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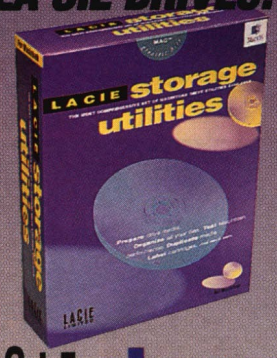

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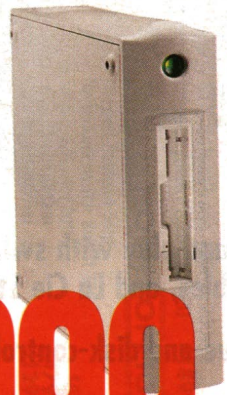

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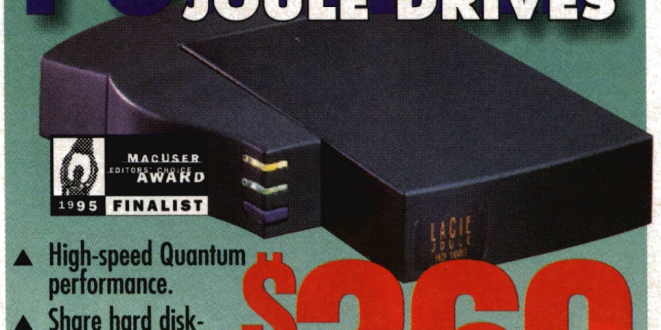

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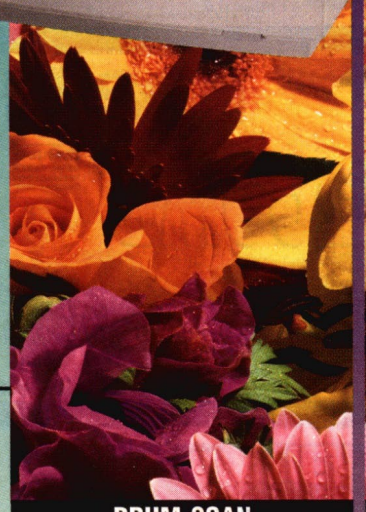
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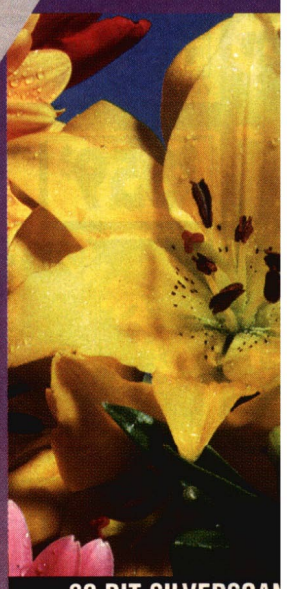
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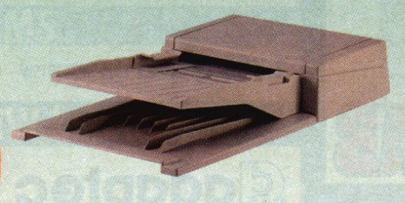

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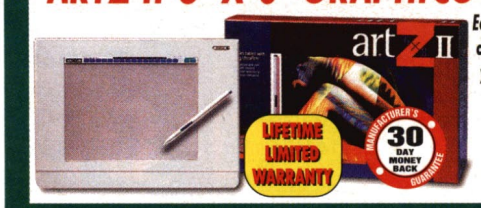

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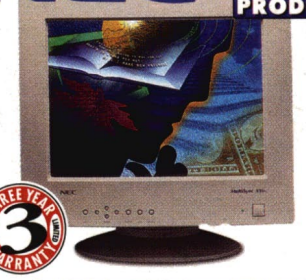

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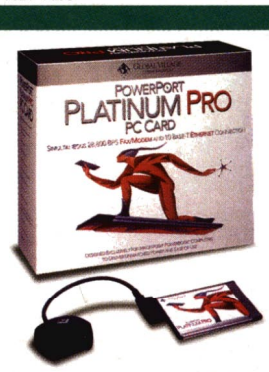

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PowerMac Memory Selection Guide

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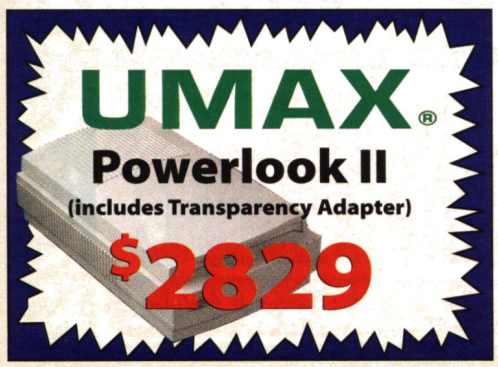

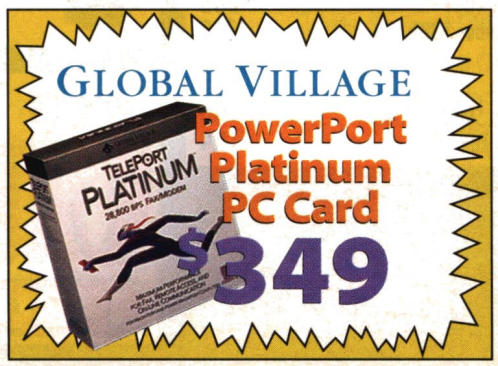

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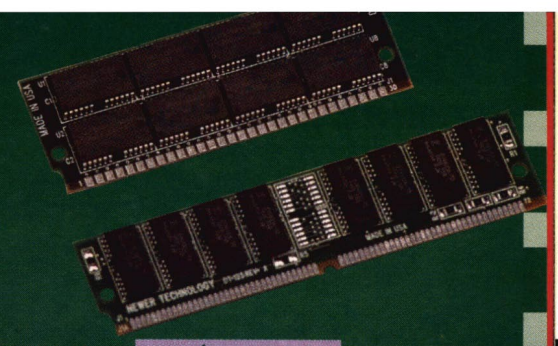

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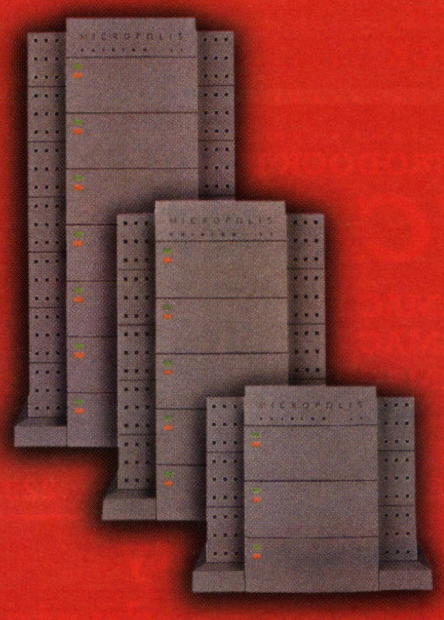

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4.3 GB	DT-15150	Seagate Barracuda NEW LOW PRICE!	8.0 ms	5 yrs	$1,199	$1,275
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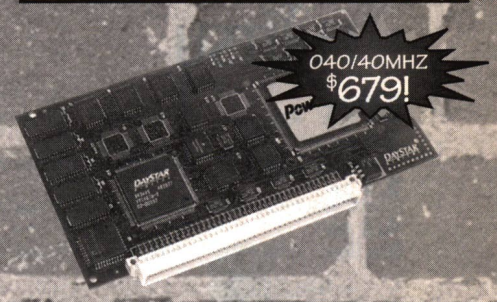

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	8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
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	8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
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FUJITSU

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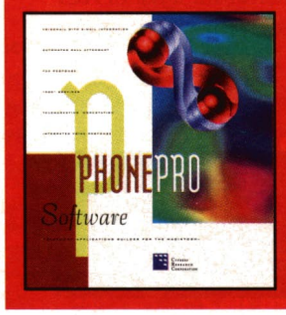

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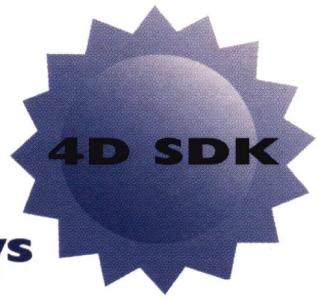

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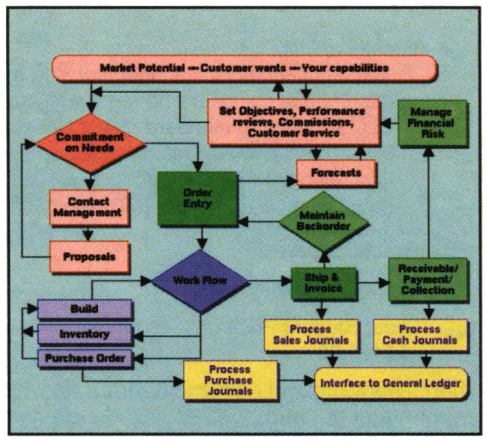

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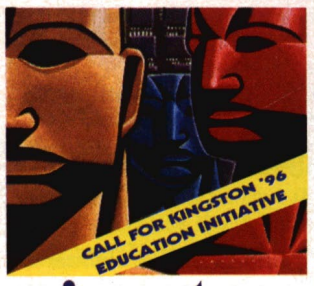

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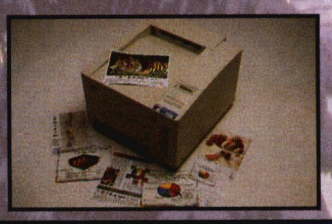

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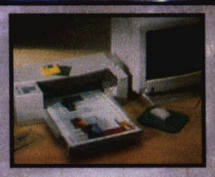

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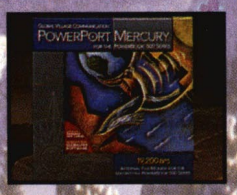

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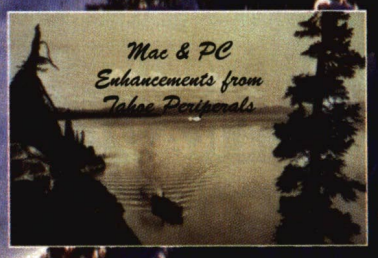

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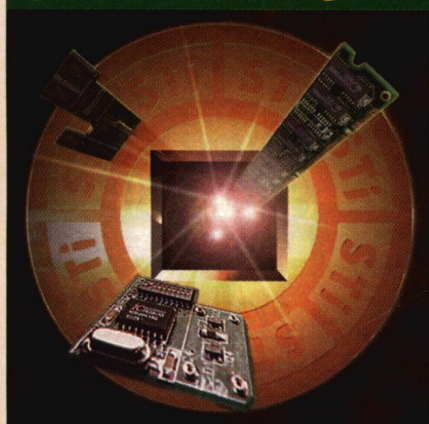

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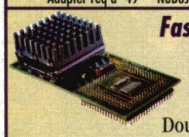

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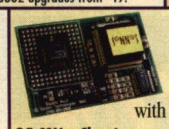

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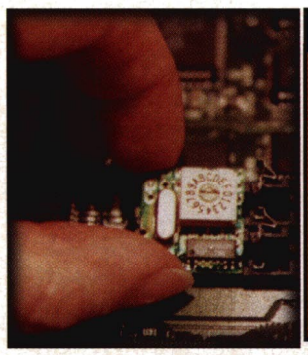

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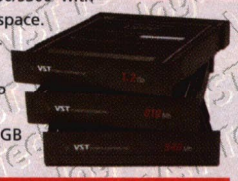

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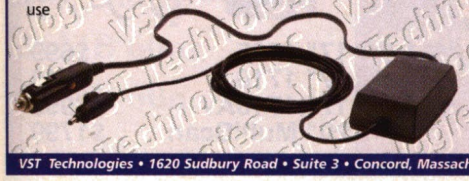
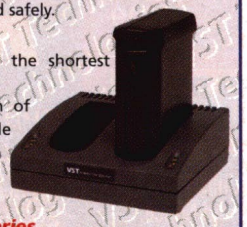
- Powers the PowerBook from any cigarette lighter socket
- Charges the internal battery while the PowerBook is in use



Charger 5000 & Internal Batteries

Finally, you can stock up on spare PowerBook 190/5300 batteries, and charge them quickly and safely.



Charger 5000

- Charge two batteries in the shortest possible time
- Charges any combination of Nickel Metal Hydride (NiMH) and Lithium-Ion (Li-Ion) batteries

Nickel Metal Hydride Internal 190/5300 Batteries

- Batteries meet or exceed ALL of Apple's specifications
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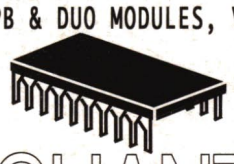

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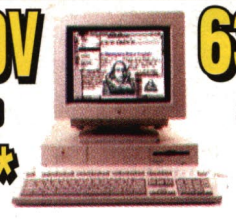

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PowerBook 540c

The PowerBook 540c is one of Apple's top of the line color PowerBook computer, combining the high performance Motorola 68LC040 processor with an active matrix color display • It has 68LC040 processor running at 66/33 Mhz. upgradable to PowerPC processor • Built in ethernet and video out port supporting most Apple monitor display. 4 Mb of RAM expandable to 36 MB • Optional 19.2bps Global Village fax modem• High capacity Type II nickel metal hydride • Weight : 7.3 lbs

4MB /320 HD 12/500/MOD

$2219* $2758*

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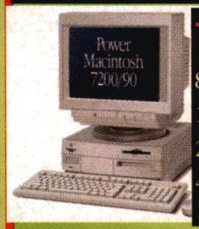
7200/75 & 90 Mhz



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$719

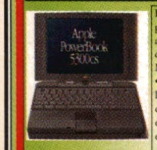
•4 PPM • 300 DPI • PS L2 • RISC

LaserWriter 4/600

$799

•4 PPM • 600 DPI • PS L2 • RISC

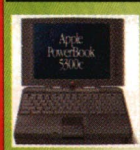
5300cs Series



PowerBook 5300cs/100 provides the performance of PowerPC technology and long battery life in an affordable color notebook system. • Uses a 100-MHz PowerPC 603e processor •Provides a 10.4-inch (diagonal), backlit, dual-scan, color display with 256 colors•Features PC Card slots and an expansion bay, for flexibility and expandability

8MB/500HD ←	$2139
16MB/750HD	$2759
Mhz CruiseCard 28.8	$299
Mhz CruiseCard 14.4	$189

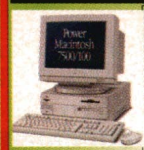
5300c Series



5300c/100 provides the high performance of PowerPC processor technology and long battery life in the highest-quality color PowerBook. Its advanced color display makes it ideal for work with graphics or presentations. •Provides a 10.4-inch (diagonal), backlit,active-matrix, color display with 256 or thousands of colors •Features PC Card slots and an expansion bay, for flexibility and expandability

16MB/750 ←	$3399
8MB/500HD	$3149
G.V 28.8 & 10-BaseT	$498
1.2GB PB HD	$698

7500 Series



7500/100 computer is a professional computer with a new architecture that offers more flexible capabilities than previous models. • 100-MHz PowerPC 601 processor, user upgradable to 604 processor•Built-in floating-point processor and 32K cache •Three industry-standard PCI expansion slots

Monitor & Keyboard Sold Separately

16/500/CD	$2469
24/1GB/CD	$2929
40/1GB/CD	$3359
64/4GB/CD	$4799

8500 Series

If your profession demands a high-performance, expandable computer that can handle any media as easily as text, 8500/120 system is for you. Featuring a new Power Macintosh architecture with even greater multimedia capabilities than previous models, the 8500/120 is the system of choice for in-house publishing, media authoring,

Monitor & Keyboard Sold Separately

16/1GB/CD	$3549
24/2GB/CD	$4299
128/2GB/CD	$7198
256MB/4GB/CD	$10989

9500 Series

9500/120 and Power Macintosh 9500/132 are the most flexible, expandable, high performance desktop computers from Apple. The RISC based Power PC 604 processor running at 120 or 132 Mhz is exceptionally •6 industry-standard PCI expansion slots •512k Level II Cache, 12 DIMM Slots

Monitor & Keyboard Sold Separately

16/1GB/CD/120Mhz	$3249
128/2GB/CD/120Mhz	$6769
16/2GB/CD/132Mhz	$3859
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MultiScan 1705	$739
Vision 1710 17"	$949
Vision 1710AV	$1029
MultiScan 20"	$1859
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PrecisionView 17	$969
PrecisionView 17•SR	$1989
Intellicolor 20e	$1989
MultiView 21	$1789
PrecisionView 21	$2289
PrecisionView 21•SR	$3139
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MultiScan 15sx	$439
MultiScan 15 sfII	$509
MultiScan 17 sfII	$899
MultiScan 17scII	$1089
MultiScan 20sfII	$1879
MultiScan 20sc	$1989
NEC	
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17" XV17"	$729
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Portrait/Pivot 1700 .26 DPI	$1039
Portrait/Pivot 1700 .28 DPI	$979

5300 Series

The Macintosh PowerBook 5300/100 provides the high performance of PowerPC processor technology and long battery life at a great price. It's the ideal mobile system for handling word processing, spreadsheets, and communications.• Uses a 100-MHz PowerPC 603e processor •Includes a high-capacity internal 500MB hard disk drive

8MB/500 ←	$1398
16/500/G.V28.8	$2019
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190 Series

190/66 is the most affordable PowerBook computer, combining the performance of the Motorola 68LC040 processor with the convenience of a compact. It offers a host of enhanced features, including PC Card slots, an expansion bay, Apple trackpad for increased functionality, and a number of upgrade options. • Uses a 66/33-MHz 68LC040 processor •Provides a 9.5-in. (diagonal), backlit, passive-matrix, gray-

8MB/500HD	$1589
16MB/500HD	$1878
PB 190 8-Bit Color Video	$179
Infrared Upgrade Kit	$79

190cs Series

190cs/66 is the most affordable color PowerBook computer, combining the performance of the Motorola 68LC040 processor , lightweight notebook computer. It offers a host of enhanced features, including a 10.4-inch dual-scan color display, PC Card slots, an expansion bay, an improved Apple trackpad for increased functionality•Provides a 10.4-in. (diagonal), backlit, dual-scan, color display

8MB/500HD	$1849
16/500/G.V28.8	$2469
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Apple PB 160 MB 2.5" HD	$79
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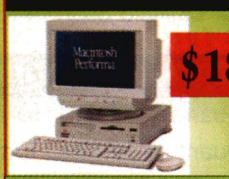

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LaserWriter Select360 PS$	$1229
LaserWriter 16/600 PS	$2059
ColorLaserWriter12/600	$5998
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Power Mac 7200[75] 8/500/CD	1,299	41
Power Mac 7100[80] AV 8/700/CD	1,999	53
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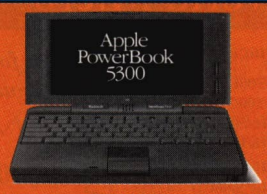

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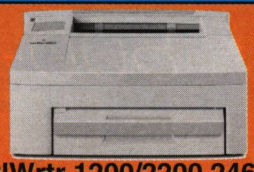

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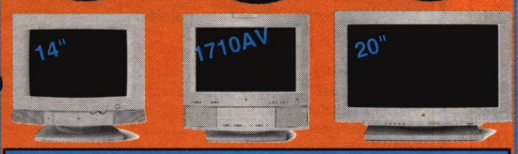

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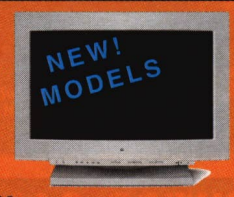

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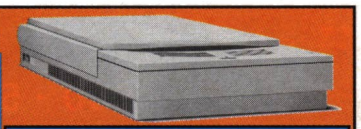

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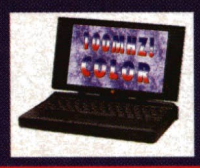

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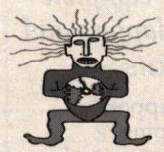

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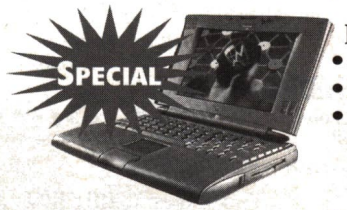

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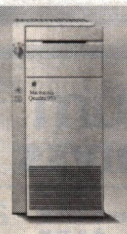

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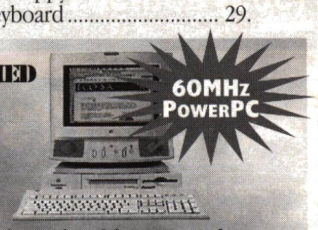

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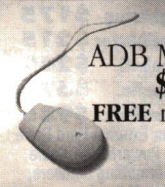

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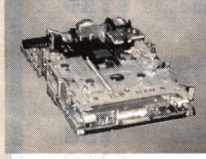

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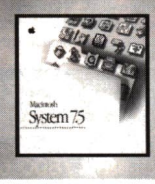

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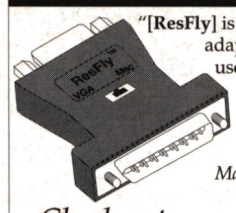

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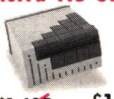

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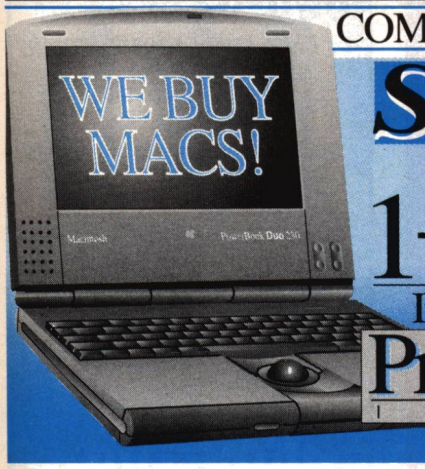

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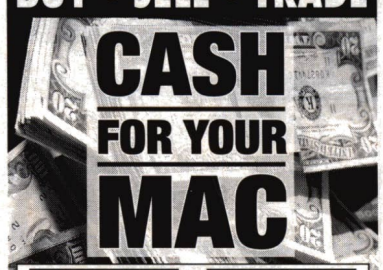

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RESULTS

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Apple

From Page 1

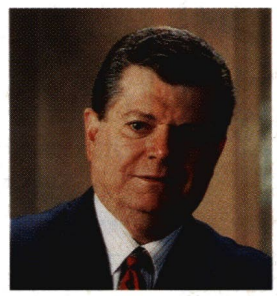
But in other areas, Apple slipped under Spindler's direction. The company consistently misforecast demand for its products, its market share eroded, its efforts to sign up major clone makers fizzled and it was caught in the cross-fire of a price war that decimated its profits.

"You don't see too many executives getting skewered like this," said a former Apple executive who requested anonymity. "This is awful. Spindler is ruined. He can't recover his reputation."

According to Tim Bajarin, president of Creative Strategies Inc. in San Jose, Calif., the board decided to drop Spindler and demote Markkula "when calls for Spindler's head got shrill and Sun [Microsystems Inc.]'s bid for the company came in too low." He also said field reports that Mac sales were hurting from the perceived management turmoil prompted the board to act.

Recent revisions in Apple's severance package for executives should soften Spindler's landing. Under the plan, he qualifies for a golden parachute worth $2.8 million, or about three times his $900,000 annual salary and bonus.

Markkula's decision to step down as chairman was equally significant. The Apple co-founder, who will remain as vice chairman, has been under fire for the company's poor performance, sources said.



Gil Amelio is Apple's new chairman and CEO.

Like Spindler, Amelio comes with his detractors. A former National executive said, "When [Amelio] came to National he set down rules and imposed them without emotion. He said, 'If you can't do the job to the metrics, I'll find someone else.' "

The source added that while the rest of the semiconductor industry was growing 25 percent to 40 percent a year, National went from $1.7 billion to $2.3 billion during Amelio's four-year tenure.

"He didn't invest in new equipment or advanced process technology," the source said.

Amelio's appointment may have put a damper to ongoing merger talks between Sun and Apple. One Apple executive said he thought the appointment of Amelio signaled that Apple would remain an independent company.

Meanwhile, the news of Apple's executive shake-up put the brakes on its stock slide. In late afternoon trading Friday, Apple's stock was up $1, to $29.38 per share. The company's stock declined in recent weeks and was battered further by Standard & Poor's Corp.'s decision last week to downgrade Apple's debt to junk-bond status. Further, Dataquest Inc. released a study showing that Apple's worldwide market share slipped, from 8.2 percent, to 7.8 percent in 1995.

With that gloomy backdrop, Spindler; David Nagel, senior vice president of R&D; and Fred Forsyth, vice president of worldwide operations; attempted in a series of internal memos to explain to employees how management intended to bring the company back into the black.

In a prescient Jan. 29 memo to employees, Spindler shouldered the blame. "I want to reiterate the sense of accountability I feel personally for the situation we find ourselves in," he wrote.

A foreshadowing of dramatic changes ahead was Forsyth's Jan. 19 message. He announced a freeze on all hiring in his division; pointed to an $80 million inventory write-off; and admitted, "We do not see the difficulties we face as merely a business cycle, but rather as a fundamental set of issues."

Apple will close a Pacific Operations office in Cupertino, Calif., according to Forsyth, while "transferring some resources from Pacific Center to the Americas." Most capital spending will be put on hold, he wrote.

"Managing inventory down is paramount," Forsyth's memo said. The company's inventory ballooned to nearly $1 billion in the past quarter. He also said Apple will continue to expand its outsourcing of service, board and systems manufacturing.

In a Jan. 23 memo, Nagel echoed Forsyth's call for a hiring freeze, but contrary to what was reported elsewhere, the stall in hiring for R&D is not absolute. "I will approve [hiring] requisitions on a case-by-case basis," Nagel wrote. □

Confidential memos to Apple staff

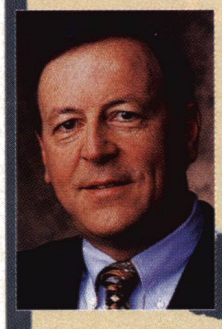
"I want to reiterate the sense of accountability that I feel personally for the situation we find ourselves in."

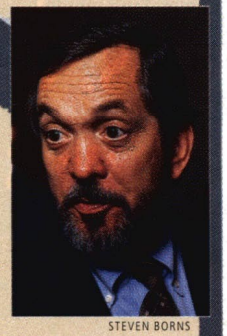
"[I]t is incredibly difficult to sell right now because the media frenzy and speculation of our demise is causing our customers to hesitate and even hold up product orders." — **Michael Spindler**

"We do not see the difficulties we face as merely a business cycle, but rather as a fundamental set of issues that need to be addressed in order for Apple to flourish in the years ahead."

"One of the initial steps … is to reduce the number of products in a product family and focus primarily on the best-of-class and most innovative products …"

"All hiring in WW Operations is suspended. … Additionally, all capital spending is on hold [except] tooling needed to support new products." — **Fred Forsyth**





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"We have demonstrated all too often that when we do 'me too' products or others which lag [behind] the competitors, it can be a disaster for us … But it's also become clear that our product line and technology development efforts have become too complex to manage successfully or to even adequately staff within the R&D organization." — **Dave Nagel**

Servers

From Page 1

will be the fastest Mac OS-based server yet, sources said. The model will use a 132-MHz PowerPC 604 processor and come with a 512-Kbyte Level 2 cache and 24 Mbytes of RAM, which can be expanded to 512 Mbytes.

According to sources, the three-slot PCI system will come standard with a 2-Gbyte, 7,200-rpm hard drive and quadruple-speed CD-ROM mechanism; some configurations will include a Digital Data Storage-2 (DDS-2) DAT drive.

Like its desktop cousin, the server will have a dual-SCSI bus architecture with an internal Fast SCSI-2 bus. The 8550 will reportedly include built-in Ethernet and LocalTalk, and users will have the option of adding a PCI token-ring card. It is expected to come standard with 2 Mbytes of video RAM.

The second model, the Workgroup Server 7250, is aimed at medium-sized businesses as well as educational and publishing sites, according to sources.

The model will reportedly have a 120-MHz PowerPC 601 processor with a 256-Kbyte Level 2 cache. The server is expected to come with 16 Mbytes of RAM, expandable to 256 Mbytes; a 1.2-Gbyte, 5,400-rpm hard drive; and a 4x CD-ROM drive.

Similar to the Power Mac 7200, the Workgroup Server 7250 will come with three PCI expansion slots and a single SCSI bus. Sources said the machine will have similar network connections and options as the high-end model; it will ship with 1 Mbyte of VRAM.

Apple is expected to offer three software packages for the new servers. Each of the bundles will include System 7.5.3 and the AppleShare client for Windows.

- **Applications Server Solution** will reportedly include Apple's RAID software; FileWave file-distribution software from Wave Research Inc.; netOctopus from Datawatch Corp.; and Retrospect Remote from Dantz Development Corp. Sources said the bundle will also come with fax software, antivirus software, personal information managers and network-management software.
- **AppleShare Server Solution** will include all the software in the applications bundle plus AppleShare 4.2.1, Apple Remote Access MultiPort Server software and Santorini Consulting & Design Inc.'s Server Manager administration software.
- **Internet Server Solution** is expected to include StarNine Technologies Inc.'s WebStar Web server; Adobe's PageMill and Acrobat Pro; Apple's MacDNS domain-name-server application; Netscape Navigator; Progressive Networks Inc.'s RealAudio client; Bare Bones Software Inc.'s BBEdit text editor; Web connectivity software for databases; and Apple's HyperCard, AppleScript, AppleSearch and RAID software.

Apple declined to comment. □

PPCP

From Page 1

interface to switch to other OSes that will be part of Apple's value-add [on PPCP]. This is just to show it's a real [PPCP] machine."

Loaded onto the demo system were dozens of extensions, including QuickTime, QuickTime VR, QuickDraw GX, QuickDraw 3D and OpenDoc. "I've never worked on an [OS release] where application compatibility was so clean so early," Bell said.

Bell demonstrated Adobe Photoshop 3.05 and Microsoft Excel 5.0. Audience members later commented that both ran "very fast." Bell said final PPCP hardware will be considerably faster than the 132-MHz PowerPC 604-based prototype: "We've done a substantial rewrite [of the Mac OS], rewritten a lot of the low-level architecture. That's why it's so fast."

According to Bell, the Mac OS for PPCP should be ready for seeding to licensees this spring. The first version of the OS will be based on the as-yet-unannounced System 7.5.3; the demo system used a Mac OS ROM, although Bell said it has not been decided if the final release will require a ROM.

"With Copland coming, I really don't want to invest a lot of resources into doing something that's going to be replaced soon anyway," he said.

Representatives from clone-maker Power Computing Corp. of Round Rock, Texas, said they were impressed by the demo. "Apple has delivered what they promised: the first major milestone of the PowerPC Platform," said Mike Rosenfelt, director of marketing for Power. "With today's demo, the PC industry got its first taste of what PPCP is about." Rosenfelt said his company's first PPCP systems, code-named Project: Grail, are on target to ship when the Mac OS for PPCP ships.

Bell acknowledged that the lack of a common hardware platform has held back Apple licensing efforts. But, with the Mac OS up on PPCP, the job of cloning has become much simpler. "That's what [PPCP] addresses — it makes it easy to build a Mac," Bell said. □

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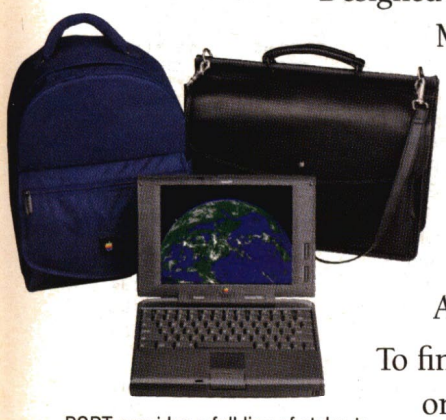

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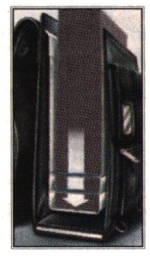

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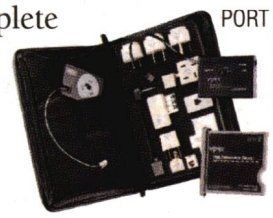

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RSA tightens security

Debuts layered encryption tools

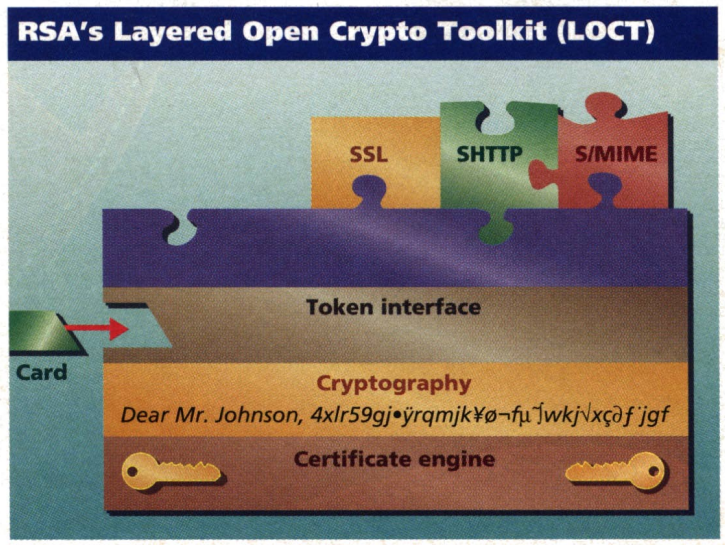
By James Staten

Developers can now tip their hats to RSA Data Security Inc. for providing an easier way to add tighter, faster-performing security protocols to their applications.

The company in January unveiled a new layered security tool kit, encryption engine and workgroup security application.

RSA's Layered Open Crypto Toolkit comprises four layers: application-specific tools, a token interface, and cryptography and certificate engines.

The LOCT reduces the redundancy found with separate tool kits and results in secure programs with smaller code sizes and lower RAM requirements, according to the company.



The application-specific tools layer provides cryptography protocols and standards that work with current embedded programs such as S/MIME (Secure Multipurpose Internet Mail Extensions) or virtual private networks. The company said the layer will shield developers from the need to create proprietary cryptography.

The token-interface layer provides compatibility with any security token or card that is compliant with the industry-standard Cryptographic Token Interface, or Cryptoki. Support for this industry standard lets developers take advantage of security systems from a variety of vendors without having to write a customized interface.

The new cryptography-engine layer provides all encryption and authentication services, including a centralized, trusted resource for access to various cryptography algorithms.

The certificate-engine layer enables standardized and centralized X.509 functions for public-key certificate management. It can interface with any cryptography engine or application-specific tool and is independent of applications or messaging formats, RSA said.

The LOCT specification is posted on RSA's Web site; PowerPC and 680x0 versions are available.

In other news, RSA this month will update its $290 Bsafe encryption engine for Power Macs and 680x0 models.

Version 3.0 will feature support for multiple encryption and authentication standards, including Data Encryption Standard; Diffie-Hellman; DSA; RC2; RC4; and RC5, which is aimed at high-bandwidth applications such as digital video.

The new version will support key sizes up to 2,048 bits and provides built-in blinding to counter time-based security attacks. The engine will detect weak keys and automatically upgrade the security to a higher level of protection, RSA said.

Later this quarter, the company said it will ship RSA Secure 1.1, a $129 disk-and-file encryption package enhanced for workgroups. The update will support a secure token capability that lets users store their security key on a floppy disk.

In addition, it will feature RC4 key sizes of 128 bits; the previous version offers 80-bit keys.

RSA Data Security Inc. of Redwood City, Calif., can be reached at (415) 595-8782; fax (415) 595-1873; info@rsa.com; http://www.rsa.com. □

Luminous

From Page 1

press Interface, or OPI, client-server architecture.

According to the company, markedly faster throughput speeds will put the Macintosh version on par with its Windows NT counterpart. Sources said the new version is designed specifically to take advantage of Apple's forthcoming Mac OS-based Workgroup Servers, also due to debut at Seybold (see story, Page 1).

Running a 132-Mbyte print job on Apple's NuBus-based Workgroup Server 9150/120, ColorCentral 3.0 offers a throughput rate of 34.5 Mbytes per minute, compared with 4.77 Mbytes per minute for Version 2.5.

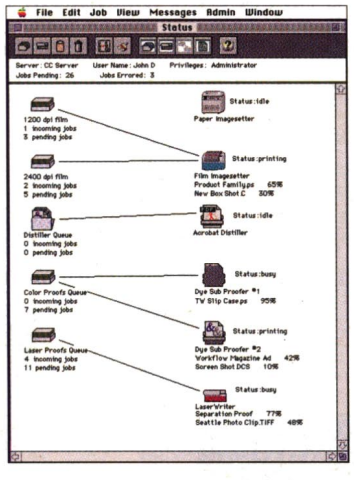
Furthermore, sources said, the new version offers throughput of nearly 50 Mbytes per minute running on Apple's forthcoming PCI-based servers. This figure puts it in line with Version 2.5 on Windows NT servers, which offers 35 Mbytes per minute throughput.

ColorCentral beta testers said they welcomed the upgrade's new client-server architecture. "With the previous version [of ColorCentral], the client and server were all-in-one," said beta tester Dan Everard, electronic pre-press systems engineer with R.R. Donnelly & Sons Co.'s Book Publishing Services in Harrisonburg, Va.

"Now we can pull up servers in the basement and [customize] the clients, [print] queues and output devices without ever actually touching the server," he said.

In addition, Everard said new security features in Version 3.0 improve administrators' control over job flow. "You don't want the engineering department printing to your imagesetter," he said. "[ColorCentral 3.0] gives you more control over what users can access what [print] queues."

The new version features an improved plug-in API for third-party developers as well as Adobe's OPI picture-replacement engine, which adds support for Desktop Color Separation and Scitex America Corp.'s Continuous Tone file formats, as well as selectable replacement for all comment types.



Luminous' ColorCentral 3.0 OPI server software boasts a new, easier-to-use interface that lets users create graphical job queues.

Version 3.0 will also include hierarchical sampling and unlimited folders, improved job management and tracking through priority queues, and enhanced job parsing and data display functions.

Besides its ColorCentral plans, Luminous said it will move aggressively to fill out its product line in 1996. On the software RIP front, the company said it plans to roll out new CPSI (Configurable PostScript Software Interpreter) software for both OEMs and end users by mid-1996.

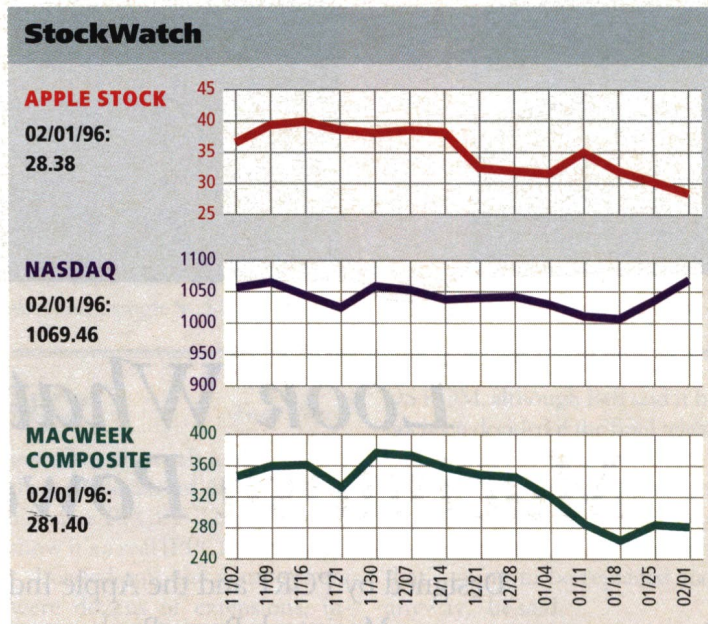
Luminous is betting on Adobe's Portable Document Format (PDF) to become a standard for transmission and distribution of content, both on the Web and CD-ROMs. The company said it will deliver PDF-production tools for separations, screening, OPI, color management and imposition this year as well.

Luminous also has plans to leverage Internet technology to digitize the connection between clients and production houses. The company said it will introduce new products this year that help users submit jobs, control images, obtain job status, and even conduct proofing and preflight tasks electronically.

ColorCentral 3.0 is $3,995 for the server and unlimited clients. Upgrades are $795.

Luminous Corp. of Seattle can be reached at (206) 470-7554 or (800) 685-6736. □

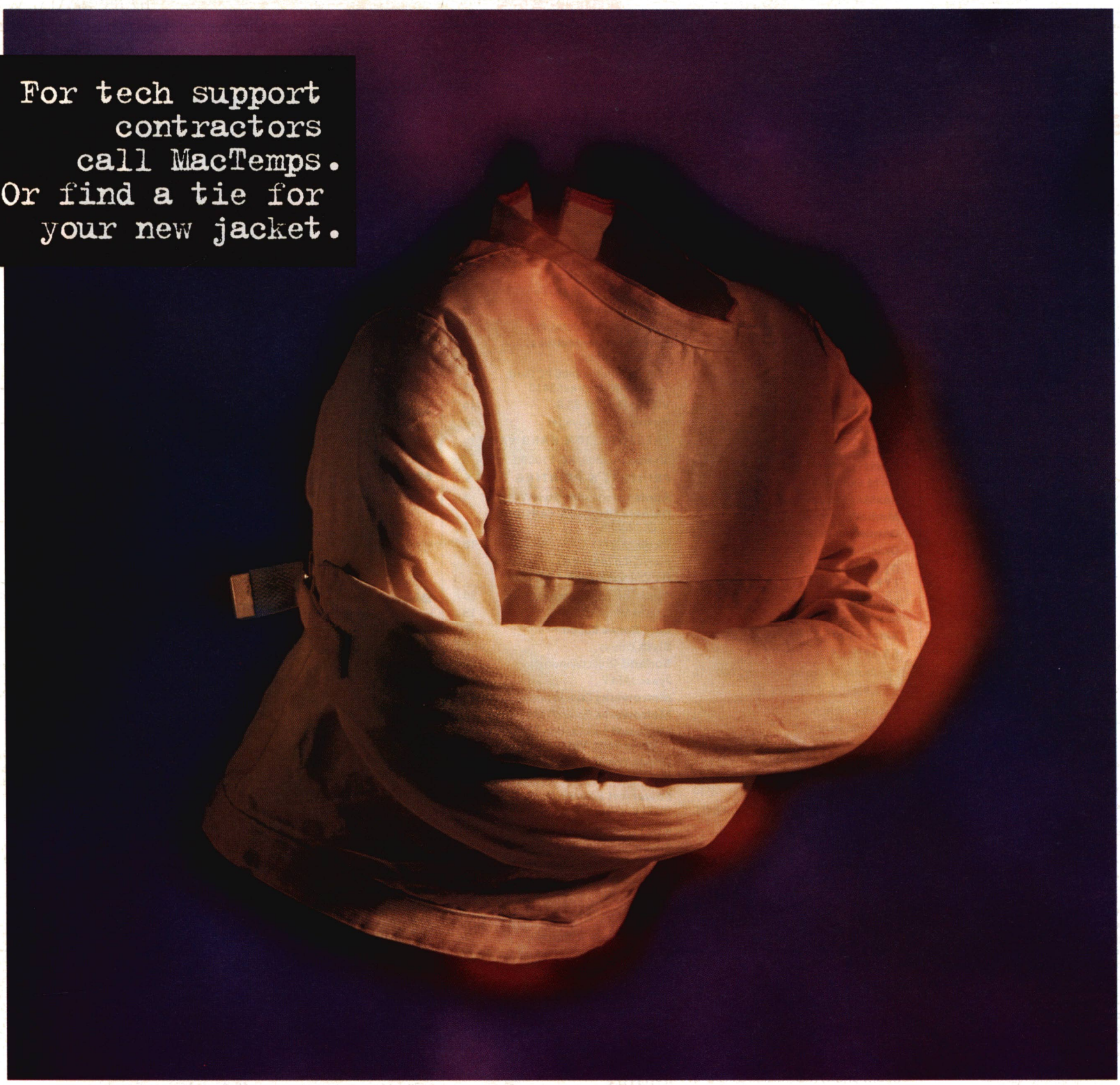
StockWatch



	02.01.96 CLOSE	WEEKLY % CHANGE
Apple	28.38	-6.20
MacWEEK Composite*	281.40	-0.92
SOFTWARE DEVELOPERS		
Adobe	34.25	-12.46
Caere	7.38	9.26
CE Software	2.75	2.33
Graphsoft	4.88	-15.22
Insignia	5.69	-1.09
Intuit	61.00	5.63
Macromedia	38.50	-7.23
Microsoft	94.13	5.31
Novell	13.25	8.16
Oracle	47.63	-0.26
Symantec	12.56	14.20
STORAGE		
Conner	25.75	3.00
Iomega	15.38	-7.98
Maxtor	6.63	0.00
Pinnacle	14.50	3.57
Quantum	18.00	-2.70
Seagate	58.63	3.08
SyQuest	7.75	0.00

	02.01.96 CLOSE	WEEKLY % CHANGE
PERIPHERALS VENDORS		
AmeriQuest	0.88	0.00
Asanté	7.75	20.39
Focus	4.69	0.00
Global Village	15.88	8.09
HP	87.00	6.75
QMS	5.13	0.00
Radius	1.50	-22.58
Shiva	71.13	2.34
Tektronix	45.50	0.00
Truevision	5.13	-8.89
DISTRIBUTORS		
CompUSA	36.50	2.46
IE	4.50	-11.11
Merisel	3.75	0.00
Tech Data	13.50	-1.82
INDUSTRY INDICATORS		
Compaq	47.38	-0.26
IBM	109.00	4.43
Intel	56.06	2.63
Motorola	56.13	6.15
SGI	28.25	5.12
NASDAQ	1069.46	3.23

**The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, Global Village, Intuit, Macromedia, Radius, Shiva, SyQuest and Truevision. Source: Nordby International Inc.*



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ZD Net/Mac this week

ZDNet Your source for Mac news

Apple's ongoing drama unfolds, the Macintosh platform evolves, new technologies rear their heads, and MacWEEK Online brings you all this news as it happens. Striving for truly comprehensive coverage, we're now listing relevant stories from sister publication PC Week on our Web site, while the latest news and views on Apple's future are still available at http://www.zdnet.com/~macuser/applefuture/. Later in the month, we'll have daily reports from the Seybold Seminars in Boston. All this, of course, is in addition to the daily supply of news, reviews and analysis you'll always find on MacWEEK Online.

Where to find us on-line

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Looking ahead

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- What are your experiences upgrading software and hardware? Did you choose to upgrade, replace or stick with what you have?
- If you run a small business, what type of low-end e-mail packages are you using? Are they adequate or do you feel like something is missing?

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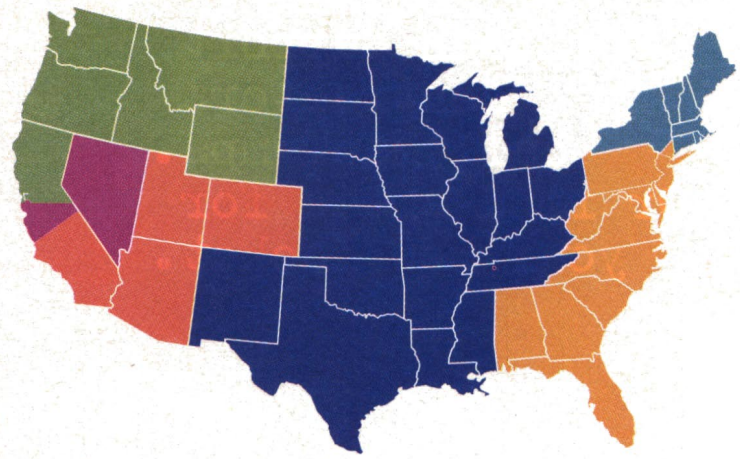
- Day-Timer Organizer 2.0



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[4] Includes San Francisco Bay Area south of the San Mateo Bridge to San Luis Obispo

[5] Includes Southern California south of San Luis Obispo, Arizona, Utah and Colorado

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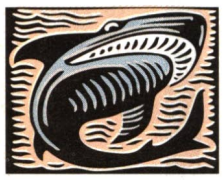

Wrestling with power, privilege

Dark-horse candidates seem to be all the rage these days. While an obscenely wealthy publishing heir *(not* named Ziff) is spending his leisure time attempting a hostile takeover of the Republican party, an equally long shot has already landed at another masochistic bastion of arrogance and privilege — Apple.

Compared with the rogue's gallery that has passed through the Knife's rumor mill in recent weeks, National Semi heavyweight Gil Amelio comes across like Capt. America. The Knife isn't surprised that both big Mikes — Diesel Spindler and M.C. "Marky-Mark" Markkula — have ended up on the business end of this super hero's shield.

Bump and grind

And speaking of power plays: The Power Mac line is due for a good firm goose by April, when Apple will bump the speeds of the 7200 to 100 MHz and rev the 7500 to 120 MHz. The Knife's cadre of speed freaks are also hoping for upgrades to the 8500 and 9500.

Meanwhile, Mac copycat Power Computing is reportedly setting up its own set of comparable speed bumps.

On the down side, Apple's PowerBook line is still spinning its wheels, CPU-wise. Laptop hot rodders won't be cruising the I-bahn with Mustang, Apple's souped-up version of the 5300. Alas, this hot concept, which included a speed bump and Level 2 cache, has been scrapped, a victim of the continuing shortage of spare parts.

Raw power

While Mustang may have crashed and burned on the starting line, another PowerBook, code-named Hooper, promises to put PCI and a processor up to 180 MHz under the hood of a laptop. That project, rumored to be hitting the streets in October, may be delayed until January. But Epic, destined to be the first PowerBook to pack a CD-ROM drive, is reportedly on track for a summer release.

It's a smaller eWorld, after all

Things are getting quiet — *too* quiet — over at Apple's on-line ghost town. Add a few tumbleweeds and the place would be a dead ringer for a Sergio Leone spaghetti Western, the Knife's sources say.

Wild-eyed survivors tell the Knife that Apple has indeed hitched its cyberwagon firmly to the Internet and is prepared to get out of town by June.

However, it may take AppleLink a little longer to ride off into the sunset. The Knife's sources maintain that AppleLink will remain Apple's internal e-mail flavor of choice at least until the second quarter of 1997.

Tarnished images

And speaking of dysfunctional relationships and *muy macho* star vehicles: The task of developing image-editing software seems to generate more bad blood than even Charlton Heston could part. Take Quark's long-overdue XPosure efforts: The Knife's moles assert that this anemic Photoshop slayer has not even reached alpha. The reason for the delay? Bad feelings between Quark and consumer-electronics titan JVC, which first conceived this beetle-browed brainchild. In fact, the Knife fears that XPosure, officially scheduled to ship this year, may never see the light of day.

Meanwhile, Live Picture is finding K2 an uphill climb. That's the code name for Version 3.0 of its image editor, which was recently liberated from the clutches of MetaTools after a falling out with Kai Krause's merry pranksters. The Knife hears tell that the breakup has been less amicable than first believed. In fact, the divorce decree apparently awarded custody of Live Picture's interface to MetaTools, necessitating a redesign before the upgrade can hit the shelves. □

John Du Pont isn't the only overprivileged candidate for a mug shot; aid and abet the Knife at (415) 243-3544; fax (415) 243-3651; mac_the_knife@macweek.com.

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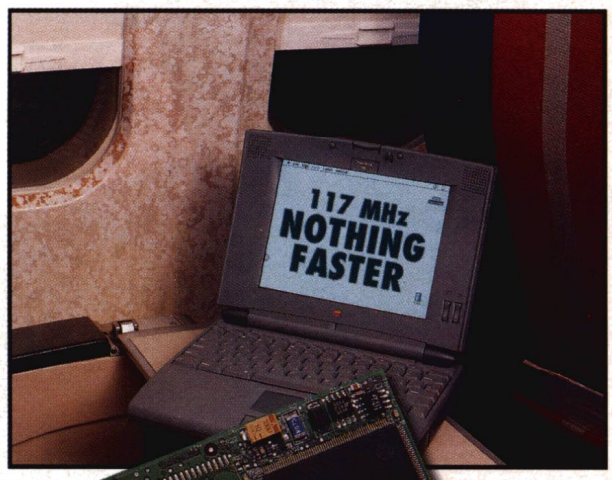
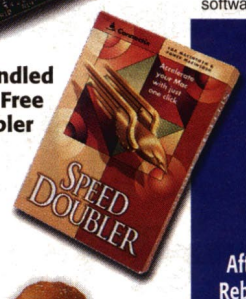
If you're the proud owner of a Macintosh® PowerBook 500 Series laptop, fasten your seatbelt. Because Newer Technology is about to upgrade you all the way to a whopping 117 MHz, the Power PC speed of the PowerBook 5300. For just a fraction of the going price of a new 5300.

How can we make an upgrade offer like this? With the **NUpowr™†** upgrade card, available in three RAM configurations: 0MB, 4MB, 8MB. It's a daughterboard that replaces the 040 CPU in your PowerBook with the new 603e chip that comes in the 5300. So you can upgrade to Power PC performance and still take advantage of your built-in Ethernet and all the system upgrades you've already invested in – like memory, fax/modem and PC Cards.



Plus, if you buy now, we'll give you a trade-in rebate of $80 for your old 040 CPU and throw in Connectix® Speed Doubler™ free. Which will let you run your non-native applications at near Power PC performance. So why not step up to Power PC class? An upgrade offer this good won't even look funny on your expense report.

†Requires Apple's PowerBook 5300 upgrade software, or System 7.5.3 or higher.



Bundled with Free Speed Doubler

INTRODUCTORY OFFER
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After $80 Factory Direct Trade-In Rebate on your old 040 processor.
Plus FREE Speed Doubler.

* Prices after Trade-In Rebate

NUpowr 117MHz	0MB	$590
NUpowr 117MHz	4MB	$795
NUpowr 117MHz	8MB	$999

Offer expires June 30, 1996.

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Mac OS

CANVAS

IT'S WHAT THEY'LL THINK OF NEXT.

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